

DUAL TEST: YAMAHA 125YZ AND MX FOR '76

MODERN
CYCLE

JANUARY 1976 PDC \$1.25



SUZUKI
RM-370
TORTURE
RACE
TEST

THE
WILDEST
MAICO EVER: 11"
OF TRAVEL, FRONT
AND REAR

ROCKET REX INTERVIEW:
WHAT MAKES HIM FLY?

HOW TO SPEND A LOT
OF MONEY MAKING
YOUR RM 125 FASTER



Merry



Christmas



JT GUARANTEED GLOVES

Fully padded palm and thumb.

JT Champions — Name choice.

JT Tibblins (Orange, Black, White)

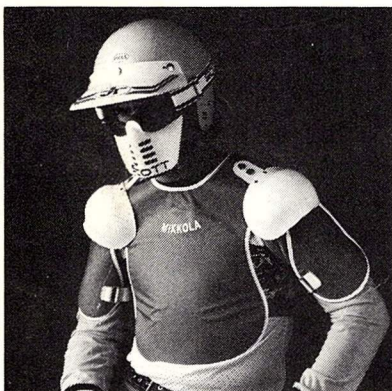
JT Mikkolas (Red and Black)

Sizes: S,M,L,XL

All \$28.85

Your name (7 letter limit)

\$ 6.00



SCOTT

Goggles — Clear Lens \$12.95

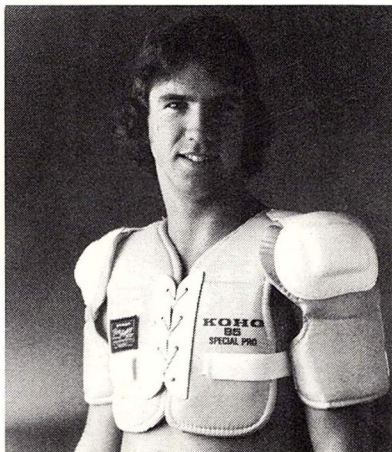
Goggles — Polaroid \$16.95

Face Mask (Blue, White) \$ 6.95

MIKKOLA

Visor (White — Red Blue Trim) . \$ 6.95

Chest Protector \$28.85

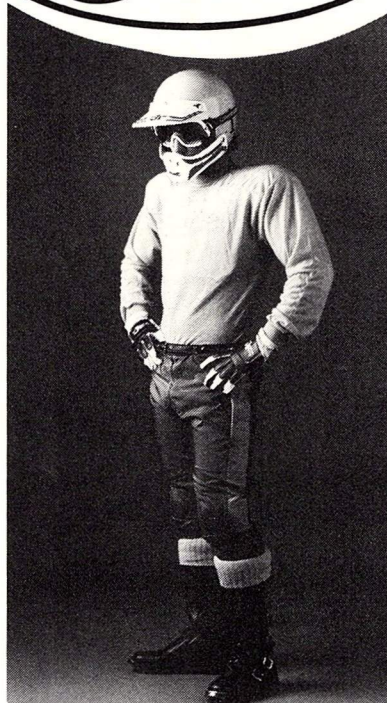


KOHO Shoulder Pads \$39.95

Kids Jr. Pad (Not Shown)

10-15 yrs. \$19.95

Kids Pee-Wee 6-10 yrs. \$15.95



WFO Acrylic Jerseys — Sizes: S,M,L,XL
(Red, Blue, or Yellow) \$12.95

KOHO* "Unleathers" — Sizes: 30, 32,
34, 36, 28, and 38

Mikkola — Red, White & Blue

Husqvarna — Blue & Yellow

Maico-Bultaco — Red, Black & Yellow

Yamaha-Suzuki — Yellow, Black & White

All Sizes and Colors \$109.85

* Approved for A.M.A. Professional
Motocross



DeCoster



Wolsink



Posters — 18 x 24 \$ 3.95

All four \$10.95



HEIKKI MIKKOLA



ROGER DeCOSTER MX Goggles

complete with tear-offs and

extra lens \$9.95

JOFA Mouthguard (red, white,

blue, yellow) \$6.95

JT Visor \$4.95



Kids Goggles w/extra
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Kids JOFA Mouth-
guard (all colors —
red, white, blue,
yellow) \$ 6.95

Kids Striped Jerseys

Sizes: 24, 28, 32

(red-white/blue,

orange/black, green/
black, green/white,

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blue/maroon, yellow/
blue, red/yellow,

green/yellow, blue,

yellow, green and red

100% cotton. \$15.95



CARRERA Goggles — Red, white,

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KOHO "707" Finnfighter \$ 8.95

JT Half 'n Half MX Jersey

Body-vented (white), yoke &

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Screened \$13.95

Unscreened \$12.95

RUSH!! My Christmas Order!

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Amt. Enclosed _____

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Exp. Date _____

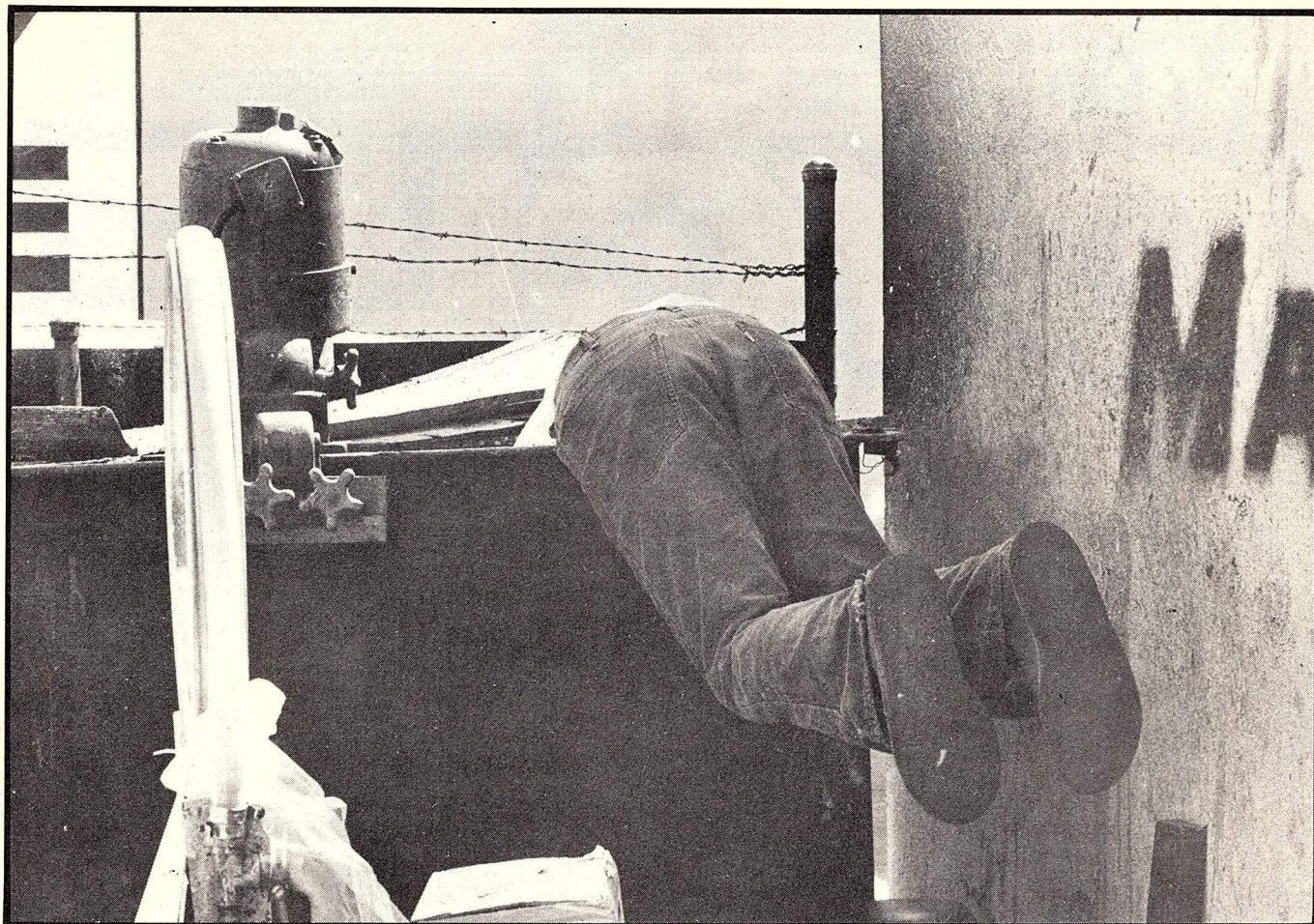
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JANUARY 1976



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BACK IN THE SADDLE

By Rick Sieman



TIME WARP

I just got done beating my head against the north wall of the plush, well-lit *Modern Cycle* offices. This rash action was necessary because of Jim Mercier, the guy who is supposed to be my right-hand man.

First, let me tell you about the person. He has numerous virtues that make him ideal to be in the magazine racket. Among them are superb mechanical knowledge and the ability to ride a motorcycle very fast. He won something like 22 in a row at CMC pro motocross before getting burned out and crashed upon severely.

The man is polite to people he meets, like big dogs and small kids, doesn't beat his wife, doesn't smoke and drinks moderately, dresses with clean clothes, is an excellent hunter, and hasn't had a deodorant fail in over two years.

In addition to that, he's become a good photographer and has learned how to use most of his fingers while typing.

Sounds perfect, right?

Excuse me while I go knock my head against the wall some more. Here's the problem that turns this otherwise "normal" person into an unspeakable monster; his sole vice has reduced his loving wife to tears and has made his few remaining friends red with helpless rage.

He is always late. Always. For everything. Yet, he doesn't try to be late; he merely is incapable of being on time for anything but fishing or hunting.

An example is in order: Let's say that we have to meet a manufacturer with a new model at our test track at nine in the morning. I make the arrangements to have a few of our regular test riders meet us, and Mercier is supposed to be at my house at eight o'clock in the morning. In theory, this would leave us enough time to load up all the bikes and equipment and stop for some gas.

Now, I know that Mercier is totally incapable of being on time (from past experience), so, right around eight, I start loading up the necessities. Eight-

fifteen—no Mercier; so I have another cup of coffee.

By eight-thirty, I know that he's going to pull one of his good ones. Another cup of coffee. Eight-forty-five and nothing. So I get on the phone and start dialing.

Brrrring-briing . . . bring-bring . . . "Hullo."

It's Jim's wife, Sandy. "Uh, listen Sandy . . . is Jim up yet? He was supposed to meet me at eight and it's almost nine."

A loud laugh crackled over the phone, followed by near hysterical giggling. "Hee hee. He ran out of here about two minutes ago with a piece of toast in his mouth and his pants around his ankles as he ran down the driveway."

I thanked her and muttered some profanities. Naturally, a half-hour later, Jim came sliding into my driveway with his van just about glowing red. I could hear sirens off in the distance. A few dead birds were splattered on the grill and steam was blowing from the overworked engine. He leaps out of the van, gesturing wildly with his eyeballs real big. "Man, you shoulda seen that big pileup on the freeway. Two semis ran over a truckful of chickens, and traffic was backed up for seven miles and. . ."

"Bullshit," I reply, "I just talked to Sandy, and she told me you just ran out of the house a few minutes ago."

He starts to vigorously deny, but the open fly and toast crumbs all over his chin are mute testimony to a man trying to make up time.

This is the way it always happens. I have talked to him like a priest in a confessional. His lovely wife has pleaded with him for hours on end. His friends have cajoled and threatened him. His parents have long ago tossed up their hands in complete disgust and realized, unlike us, that he operates on Mercier Time, a time zone that exists

(Continued on page 68)



1

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YAMAHA COMPETITION FORK KIT

- NEARLY 9 INCHES TRAVEL
- COMPLETE DAMPING MODIFICATION, INCLUDING SPRINGS
- MINIMUM ENGAGEMENT LOSS
- LTR COMPATIBLE KIT NO. CP9

Yamaha 125 YZC, 250 & 400 CC Monoshock MX and Enduro (1975 only)

LIST \$3995
(Add \$1.50 for shipping & handling; Calif. residents 6% sales tax)



1

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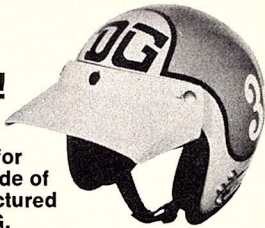
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Number One Products Inc.

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DG Logo TEAM HELMET! \$45.95

Use your head for KRW's best grade of helmet manufactured specially for DG.



Book of Tricks for 1975 \$1⁰⁰

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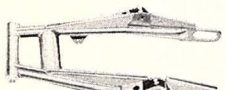
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SHOCK LAY-DOWN KIT \$109.95 (most models)

The ultimate in suspension. 3-way adjustable. Includes complete Lay-Down Swing Arm Assembly of chromoly with bronze bushings and Top Assembly Mounting Bracket. (Welding required on top bracket). Available for: CR125, CR250, 125YZ, and Husky. (Soon Available for TM125, TM250, TM400, MX250-500).



Forward-Mount Swing Arms

Available for: CR125, CR250, XR75, 250YZ, MX250-500, TM125, TM250, TM400, KX125, KX250, KX450, Husky, Monarch.

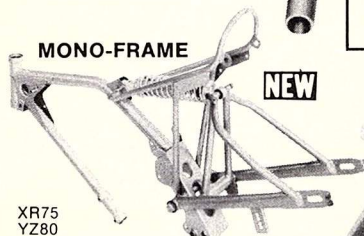
LAY-DOWN TOP KIT \$26.95

CR125, 250
MX250-500
Available separately from Lay-Down Kit.

FORWARD MOUNT TOP KIT for CR125, 250, XR75 \$16.95

SWING ARM BUSHINGS

Bronze. CR125, 250,
TM125, 250. \$12.95



XR75
YZ80

DG's Mono-shock frame uses 4130 chromoly with gold-anodized cadmium plating. Heliarc welded for max. strength. Won't scratch, chip or peel. Stock components fit. Frame only
XR75 \$295.00
YZ80 \$325.00
with Gas Bilstein shock
XR \$349.00
YZ \$379.00

SOON AVAILABLE... CR MONO-FRAME WITH TWIN PARALLEL SHOCKS.

NEW PIPES FOR 1975

The TORQUER Completely new design.

CR125 \$48.95, CR250 \$58.95
The TORQUER-TOO \$48.95 for
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CR125, CR250 \$69.95

MR175 ENDURO PIPE

for the hot new Honda \$58.95
with spark arrester \$64.95
Enduro Pipes also for
MT125 (\$47.95), MT250 (\$57.95),
MR50 (\$42.95).

TIGER TORQUER-A

All aluminum for XR75
\$42.95
Available soon for other
makes and models.

NEW CR250 RADIAL HEAD \$64.95

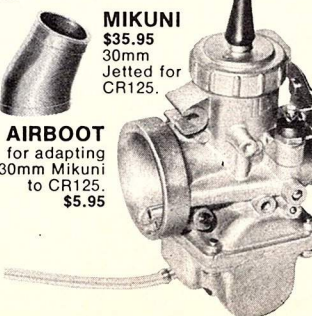


13 radial fins for superior cooling.

NEW! NEW! NEW! NEW!
DG DOES IT AGAIN!
17-FIN CR125 RADIAL HEAD.
Still only \$39.95

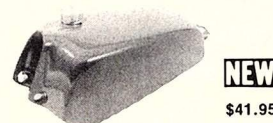


Large
volume
INTAKE
MANIFOLD
for 30mm Mikuni
\$6.95



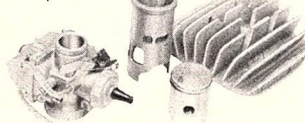
AIRBOOT
for adapting
30mm Mikuni
to CR125.
\$5.95

NEW! REPLICA TANK



Exact "RC" Replica Gas Tank. Maico-type fiberglass construction like the big enduro bikes... Bultaco Montessa, Penton, etc. Looks like the Honda Factory Race Team equipment. Honda Red or DG Yellow. Uses stock Honda gas cap.

DG's 100cc KIT for CR125 \$250.00 complete



New concept, no reed. Includes: Radial Head, Mikuni Carb. Cylinder Liner, Piston, Rings, Gasket, pressing cylinder liner into your barrel and custom porting.



NEW
81cc
BIG
BORE
KIT
for XR75
and SL70

Increase engine displacement to maximum permitted in Mini-cycle class. Includes: high-compression piston, rings, pin, cir-clips and gasket \$32.95

DG MX SOCKS \$6.95
Hi-qual., yellow 'n blue, 90% acrylic, 10% elastic, one size fits all.

DG Super LEATHERS \$69.95

XR75 Aluminum EXHAUST MANIFOLD FLANGE \$4.95



NEW! CR AIR BOX
A DG Original. Completely enclosed; dust-proof; waterproof. Uses Penton-type Foam Filter Element (the Phase II by JT). Larger air volume for increased performance.
\$39.95
filter included



The NEW one



BOGE SHOCKS \$54.95/pr.

The "rebuildable" in 11.75 or 13".

DG's SHOCK COOLER

Finned aluminum shock body with larger fluid capacity. For 11.9 and 12.9 Koni; 11.75 and 13" BOGE. \$44.95/pr.

NEW! The hard-to-find GIRLING GAS SHOCK NEW 12" and 13".

DG CHAIN LUBE \$1.65

Allan-Head Bolt Set \$3.95

CR125 Clutch Springs .. \$6.95

DG logo HOT HAT \$1.25

DG logo SUN VISOR \$2.95

DG yellow with blue logo, adjustable strap.

DG logo T-SHIRT \$4.50

100% cotton, assorted colors, S-M-L.

DG logo Racing Jersey \$12.95

Hi-qual. nylon. Gold with blue logo. S-M-L.

DG logo SWEATSHIRT \$7.95

Hi-qual., 50% polyester, 50% cotton, S-M-L-XL.



DG Super
FORK OIL
Heat-resistant,
non-foaming.
16 oz. \$1.25

DG GLOVES
Trick-looking,
long-lasting,
race tested.
S-M-L. \$17.95



FORK
BOOTS
Protects front fork works.
\$7.95/pr

ALL NEW PRODUCTS FROM DG

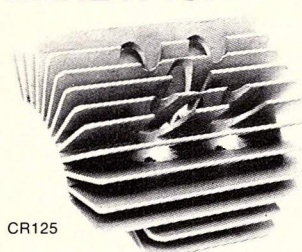


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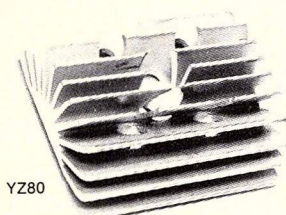
HERE IT IS!



CR125

DG's 1976 model 17-fin Radial Head

A totally new design concept: new combustion chamber provides more horsepower instantly. Dyno-testing shows the 17-fin design reduces head and exhaust temperatures by as much as 100 degrees. New manufacturing method keeps price low. Available now for CR125 ... \$39.95 and a new 13-fin model for YZ80 \$34.95



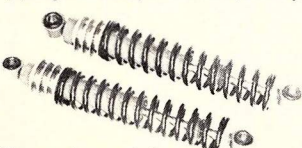
YZ80

NEW! NEW! NEW! NEW Radial Head for YZC Mono and Suzuki RM125 \$39.95

Now: available from DG

The Gas Girling Shock

What makes the Gas Girling so great? Just ask Heikki Mikkola—they're the ones he won with. Available in 11.8 or 13-inch; specify 80, 90, 100, 110-lb. spring rate (springs included) ... \$98.50/pr.



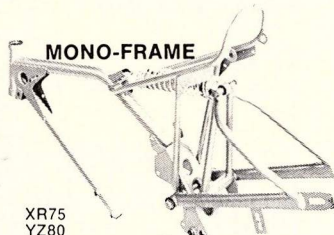
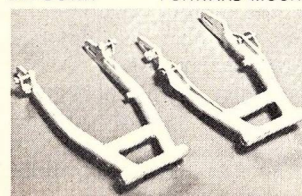
Now you have a choice ...
Aluminum or Chromoly.

DG ALUMINUM SWING ARMS

The famous DG swing arm in either the forward-mount or lay-down design is now manufactured from weight-saving aluminum at no increase in price. (\$109.95 most models.) Available for Honda, Suzuki, Kawasaki, Yamaha (soon available for others.)

LAY-DOWN

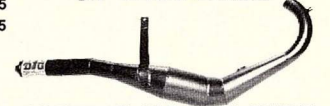
FORWARD-MOUNT



XR75
YZ80

DG's Mono-shock frame uses 4130 chromoly with gold-anodized cadmium plating. Heliarc welded for max. strength. Won't scratch, chip or peel. Stock components fit.
Frame only
XR75 \$295.00
YZ80 \$325.00
with Gas Bilstein shock
XR \$349.00
YZ \$379.00

SOON AVAILABLE CR MONO-FRAME



125YZC (Mono) PIPE

Dave Williams won the Mammoth Mountain Motocross with this pipe ... \$48.95

Suzuki RM125 Pipe \$48.95



Available from DG

The New Inter-Am Solid-Stock Aluminum Handlebars AMA-approved

The super-light, super-strong, SUPER BAR by Inter-Am. Made from #2024 solid-stock anodized aluminum, with almost twice the bending resistance of chromoly and almost 4 times that of mild steel. And, no more cross bar to loosen your teeth. Available in beautiful anodized Silver, Gold, or Black ... \$14.95

We also have the Marzocchi Gas Shock in all popular links and valving. \$99.50 complete.

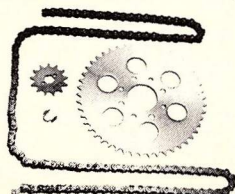


FORK BOOTS \$8.95/pr.

High quality rubber; accordion design. Protect front fork works. Black, also in red, yellow, or blue.

Sprocket Kit with Chain

Eliminate chain problems on your CR125. Uses 520 chain. Countershaft drilled and tapped. Horseshoe-clip included. Rear teeth: 48, 49, 50 or 51. Front teeth: 12, 13 or 14. ... \$42.95

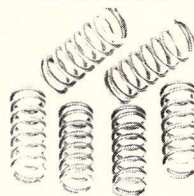


SHOULDER & CHEST PROTECTOR by KOHO

Complete freedom of movement with maximum protection. Shoulder caps and biceps of white, shock-resistant polyethylene. Chest and back of poly reinforced foam. Covered with yellow, moisture-proof Nyltex nylon. Fully adjustable Velcro straps—comfortable, form-fitting without bulk. Very lightweight ... \$39.95

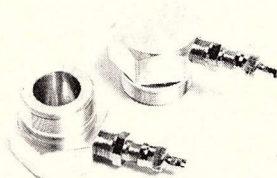
Heavy Duty Clutch Springs

For CR125. Adds to clutch life, stops power loss due to slippage.
Set of 6 \$6.95



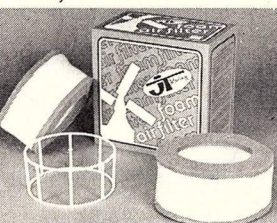
GAS YOUR FORKS!

Adaptor for charging front fork with air for extra cushion. Lets you remove fork springs and run with a straight air/oil suspension. Yamaha, Suzuki, and Honda (others soon) ... \$15.95/pr.



JT Racing "Phase II" FOAM AIR FILTER

Available for most models of racing bikes. Prices vary.



MIKKOLA "UNLEATHERS" by KOHO AMA-approved



These are the new GP pants that the Moto-X world is raving about. Made of nylon and goat skin, they combine the best features of both. Lightweight ... cool ... water-repellent ... durable. Ideal for desert or back east hot, humid summer riding. Goat skin in crotch and inner knee helps you keep a grip on your machine. Available in Mikkola red, white and blue; Team Yamaha white-yellow and black; Team Husky blue with yellow strip; Team Maico red-black and yellow ... \$110.95



\$23.95

DG SKATEBOARD

Manufactured from unbreakable urethane with anti-slip surface. Has that just-right flex and an extra wide tail for better footing. The trucks are specifically designed for skate boards. Urethane board has 100% guarantee against breakage. Available in red, yellow or blue.

DG is proud to offer

TIBBLIN GLOVES

Superior quality. Manufacturer guarantees materials and workmanship for 3 months. 100% lambskin, fully padded. S, M, L, XL \$28.85/pr.



Finn Fighter "707" FACE MASK

Developed by JT Racing, Heikki Mikkola, and KOHO of Finland, new design features venting to provide more "breathable" air and cooler circulation of air; adjustable to wear close in, far out, tilted; shatterproof, bends but doesn't break. Streamlined look in red, white and blue Mikkola colors ... \$8.95



DEALER INQUIRY INVITED

Editorial

By Rondo Talbot

WATCH OUT FOR A

Pick up the paper and look at the ads for new bikes. Chances are you'll see prices advertised for machines that are way less than the suggested retail. Take the new Suzuki RM 125, for instance. The suggested retail is right around \$825, depending on your area of the country. Yet, right there in the paper a few days ago, I saw ads from several dealers selling the hot little RM for \$749.

While I don't know the exact pricing structure of the Suzuki dealerships, it's a safe bet to say that the dealer gets the bike from the factory for slightly under seven hundred bucks. This means that the dealer is selling the motorcycle to the public for fifty bucks (approximately) over cost. In effect, this would mean that the dealer is making around six percent on a high-buck sale. Normally, a dealer should make around 20 to 25 percent.

This might seem like a lot of money to make on a bike sale, but it isn't, when you consider the capital the dealer ties up for an undetermined period of time. Some bikes sit on a showroom floor for a year or more before they sell . . . and some of these long-range sitters get sold for a very low buck—or even for less than cost.

The 20/25 percent almost makes it worthwhile for the dealer to stay in business, if his bikes move in a normal fashion. But the dealer who's making only six percent on the machine has to be making his money somewhere else. Hell, there are any number of banks that offer about the same profit in interest, with absolutely no risk whatsoever.

You might think that this doesn't affect you in any way and that you might just as well buy your bike from the dealer with the lowest price. It's true . . . you might make out in some instances. However, let us show you the circumstances that might make you reconsider.

Assume for a moment that you buy your new 125-Whatever on sale for about fifty bucks over cost. The dealer is moving the new machines out of the door as fast as he can get them in.

You go out and ride your new bike for the first time, but find that it's not running too clean anywhere in the rpm range. Another more savvy rider listens to the sounds your bike is making and pronounces, "It's running way too rich. You'd better lean it out if you don't want to spend half your life fouling plugs."

Not knowing a whole lot about the new Suck-Aire Vacuum Carb, you take the bike back to the dealer and ask him to make it right. He tells you that there's no way he can squeeze you in in the service department for at least another three weeks. You tell him that you want to go riding and ask if his service department could please at least look at it and tell you what to do.

At this point, he'll probably tell you that his two mechanics are totally swamped setting new bikes up for customers.

Right about now, you might remember that you paid an extra 35 bucks for a little item called "setup," so

you snivel accordingly. "Well," reasons the dealer, "I set the bike up like I was supposed to: put oil in the gearbox, tightened on all the parts and fired it up. It ran OK out back down the driveway. You can't expect me to fine-tune your bike for you, can you?"

So you leave the shop, more than a bit disgruntled and go over to a friend's house who's mechanically inclined. He takes a look at the black smoke coming out of the pipe and the heavy layer of carbon on the plug and somberly announces, "Hey, it's way too rich. Let's just lean out the ole main jet a bit."

After fumbling around in his toolbox, he finds a main jet about forty numbers leaner than the one that's in the carb and completes the switcheroo. Reluctantly, he accepts a six-pack of beer and a five-dollar bill for his time and knowledge.

You take the bike out the very next day and fire it up. By George, it's running a whole lot cleaner . . . and stronger, too! Unfortunately, after 15 minutes of riding, the engine sticks tight. Seizes. Becomes one piece. Dies. Pukes its innards. In other words, you got problems.

Later that night, you take off the head and look down inside the barrel. You nearly barf. Huge scabby deposits of aluminum are on the walls of the barrel, and there's a nice hole melted right in the top of the piston. With some effort, you get the barrel off, then remove all the damaged pieces. Fortunately, the lower end seems OK, but the piston is wasted, the barrel is scored and the head has bits of rings sticking into the metal like a deranged porcupine. Little dollar signs tighten up your personal lower end.

You know this is going to cost you, but you figure, what the hell, the riding season is only so long and getting shorter by the day. You can always scrimp a bit more during the winter to make up for the summer fun.

Back to the shop.

And more sad news.

Not only can the dealer *not* work on the bike for at least a month, but he only has rings in stock. Nothing else. And standard rings at that. Even with your limited knowledge, you know that those grooves in the barrel are going to require some boring to get rid of.

You plead.

He refuses.

You threaten.

He walks away to talk to another customer who's come in to take advantage of that neat deal on the 125-Whatever for only 50 bucks over dealer cost.

Later on, you run into another friend of yours who has also purchased a bike just like yours, but from another dealer. You ask him what he paid for his bike, and he tells you that it cost him \$925.00, plus tax, title and setup. But the dealer threw in a helmet and a riding jersey.

"Boy," you laugh, "did you get screwed."

BARGAIN DEALERS!

"Oh, I dunno," says your friend, "I had some trouble with the shifting and jetting at first, and he helped me sort out all the problems. Didn't even charge me to get it right. Even showed me what kind of fork oil to run and put some heavier springs on my shocks in exchange for the stockers. He's even giving his steady customers 10 percent off on parts and goodies."

Couple of things come to mind. Why did the dealer who charged full retail for the bike show such an interest in his customer? Was he just a "nice guy"? Chances are he was just an excellent businessman. Because he was making a reasonable profit on each and every bike he sold, he could take the time to keep his customers happy. And a happy customer is a loyal customer. When the happy customer wants to buy leathers, helmets and other similar goodies, you know where he'll spend his money.

In this way, the smart dealer has time to cultivate his

customers and extract a reasonable amount of profit for the time invested. He actually makes more profit selling one bike than the discount dealer does selling four bikes.

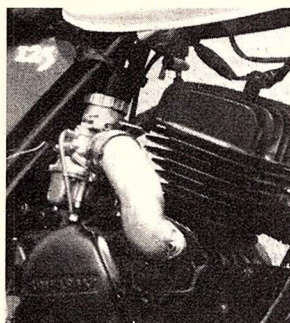
And, more importantly, he has much less hassle involved in the logistics of the transactions. This leaves him more time for a conscientious setup, rather than a casual bolt-together.

Now, ask yourself once more if the bargain bike is really the bargain bike. Especially next year, when trade-in time comes around. The discount dealer won't even want to see your face if you want to include your old bike in the deal, while the other dealer might even help you sell your machine if he can't afford to take it in on trade.

Think long and hard before you rush off to that "sale." It may not be such a bargain in the long run. Or even the short run.

38MM CARB ON A 125!!?? YOU BET YOUR ASS!!!

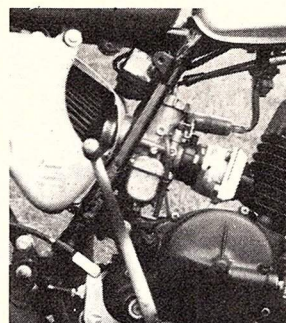
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CR-125



TM-125



GP* SUSPENSION

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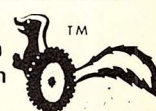
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1 large stick-on
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POST ENTRIES

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Canoga Park, California 91304

CAN YOU DIG IT?

I just read your Post Entries in the October issue, and I think it is great that you told off that ass who was complaining about the dudes digging holes and throwing giant rooster tails. Why don't you take some more pictures of bikers doing things like that?

Also, I would like to know how the hell you did that junk car bit!

I don't see why that dummy gave such a big shit about those pictures.

Keep up the Good Work!

Tim Waters
Kingsport, TN

Easy. We just had our "strangest" test rider leap off a ledge, land on the roof, and wheelie down the hood to the ground. Don't try it.

BALL PROOF

If you've got any balls at all, you will print this letter I sent to the A.M.A. We desert racers need all the help we can get:

"I am a desert racer. I am on the brink of extinction. I belong to DRA #927x nov., and district 37 #573x nov. I have been racing only a few years, and I also belong to the so-called 'or-

ganization,' the A.M.A. I have just finished reading an article in *Cycle News* called 'Desert Clubs in Trouble.' I ask, Where in hell is the A.M.A.? I read in the paper that the Barstow-to-Vegas run has been canceled. Again, where is the A.M.A.? The only thing I get from the A.M.A. is newsletters with photos of fat old motor maids and stories of old farts who are retiring from a useless position in a remote New England district. The time has come for desert racers to get together and fight for their land. And I'm going to try to get some people together and see what can be done to help. If you people care about motorcycling, you'd do the same."

Sincerely

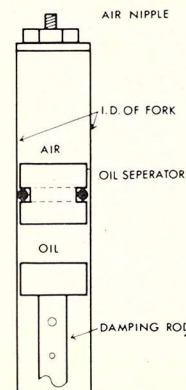
Cecil Drysdale
Drysdale Racing Enterprises
Calimesa, CA

McMESSAGE FROM McNEELY

New breakthrough in motorcycling technology (well, maybe not so great, but be glad your magazine got it instead of some other one).

Everybody knows that air forks damp better than spring forks. To make the system better and prevent foaming of the oil, why not separate the oil from the air by using a diaphragm as many rear shocks use? This would provide better damping, as it would eliminate foaming.

The plug could be made from aluminum on a lathe. I haven't tried this brainstorm yet, as it may be all storm and no brain. I see no reason why this



wouldn't work, but if you see some reason why, let me know, or I'll feel so dejected that I might cry.

P.S. You guys screwed up in the September issue of *MC*. In that gas shock comparison test, you forgot to mention the travel of the shock. Of all the stupid things to do, that was it. This may be of no importance to you, but you still should tell the world this in the next issue.

Later . . .

David McNeely
South Gate, CA

(Continued on page 71)

STROKIN' IT

Jim
Mercier

ONE STEP OVER THE LINE



It's a natural thing to want to be the best; everyone does it. Even the guy who sweeps floors wants to have the cleanest floor. At least he has something to say he's done and done his best at. But when you talk about sports, there's another kind of being the best.

For a runner it's easy, just move your legs faster than the other people, and the rest of your body will follow. Sure, there are other things that determine a great runner, but it's not as complicated as wanting to be the best Motorcycle Racer In The World. That, my friend, would be something to brag about. Being the best has its advantages, but getting there has its bummers.

Take the kid down the block. He sees all the top-line riders and wants to be just like them. Throw the bike sideways, spin the wheel, the whole works. All he wants to do is go out and blow everyone's minds and leave them saying, "Wow! Is he fast!"—or something like that. Little does he realize that he's probably hurting himself more than helping. Most of the young riders have the idea stuck in their heads that if you can't do a cross-up, you can't be fast. UNTRUE!

If you take a close look at the best riders in the world and analyze their riding styles you'd be surprised to find that most of the showboating is done only in practice or in a qualifier.

A good example is the Carlsbad GP last year. DeCoster pulled on the track for time trials, and over the first jump he pulled the biggest cross-up ever. In the next corner, he dropped the bike all the way to the cases and flew through the corner at about 90 per. After time trials were over, we asked him about the gymnastics.

He told us he does it for the crowd and no other reason. Cross-ups slow you down, so he never does them in a race. He said he loves to see the expression on people's faces when he does his

tricks. Here is the fastest motocross rider in the world, and he doesn't do cross-ups except when he's playing around.

Wonder why all of the novices like to do them on each and every jump? Don't they realize that it slows them down and also increases the chances of getting off? Sure, DeCoster has enough skill where he could do clickers in the corners and wheelies everywhere else, but he knows racing is a serious business, and that's how he treats it.

Many times I've been at the races and watched riders go out of their way to do a crowd-pleaser. Most of those guys end up taking a dirt sample before the race is over. Even some of the experts have this hang-up. They feel it's their duty to blow the eyes of everyone at the races, or they'll go unnoticed.

(Continued on page 68)

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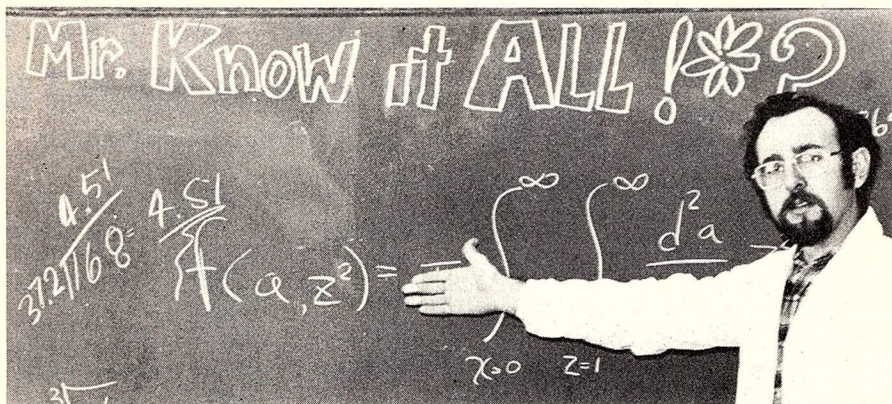
Should a Super Spring fail for any reason, please return the spring, prepaid to Ken Ross Inc., 213 Rusk, Rockwall, Texas 75087. Include with your returned spring, a copy of your sales receipt or information as to where and when you purchased your Super Springs. If inspection reveals that the spring is defective a replacement will be mailed to you immediately.

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By Vic Krause, MCs Midwest Editor

THINGS THAT GO SNAP IN THE DARK

Dear Mr. K.,

I own a 1974 250 Elsinore. It's time to tear the top end down and put an oversize piston in. My question: Should I stick with the Honda original equipment or go to a Wiseco piston? I ask because a few friends have had trouble with the Wiseco cracking on the skirts. Have you heard of such happenings? Also, I've seen cycles with shock reservoirs mounted to the frame with a hydraulic line connected at the bottom of the shock. Wouldn't this overload the shock with too much oil?

Bob Prelewitz
Grand Rapids, MI

The "FMX" series of Wiseco forged pistons should prove to be your best bet for replacement. Their earlier cast-versions will fracture at the skirt if they become too loose in the bore and are allowed to run beyond recommended clearances. Look up the definition of the word "reservoir" and then ask yourself that last incredible question.

JAWAS!

Dear Mr. Nose-It-All,

I have been reading your magazine for the past year, and find it useful in my riding and my bike. I own a modified 1971 Jawa 90, and it has a lot of power for a 90cc—especially with its Bultaco 125 expansion chamber. Are the CZ 90 and the Jawa 90 basically the same bike? If not, what is the difference between my bike and the CZ?

John Karol
Westbrook, CT

P.S. I really liked the poster of the CZ 400 and the YZ.

Mr. Karol,

Your perversion of my title is not amusing. Please address further communications with my proper name: Mr. Know-It-All. A little respect, if you please. However, if you are the type to mate parts from a Spanish bike to a Czechoslovakian machine, I can hardly

expect you to compose a very dignified letter. Nevertheless, the Jawa 90 is also referred to as the CZ 90. CZ is to Jawa as Chevy is to General Motors.

BUDGET HOP-UPS

Dear Mr. Know-It-All,

Using your expert judgment, would you tell me the answer to this question? After I have added six inches to the stinger of my stock RM pipe (making it almost the same as the kit pipe for the RM) what silencer should I use for maximum horsepower—the stock RM silencer, the Skyway silencer, the Basani silencer, or the Super Trapp? Also, does anyone have a 34mm Mikuni carburetion kit for an RM 125?

Pat McCarthy
Cloquet, MN

P.S. I would buy the hop-up kit Suzuki offers for my RM, but I suffer from the dreaded disease called empty walletitis.

Your humble request is answered. The Skyway is the correct choice. A 34mm kit is available from G.E.M. products for your RM. You could cure your disease, McCarthy, if you went to work.

AV-GASSED

Dear Mr. Know-It-All,

I raced Moto-X for four years before getting into drag racing cars. Now back into Moto-X (couldn't stay away). I'm

(Continued on page 68)

KRAUSE KAPERS

Recently Midwest Editor Vic Krause moved his shop a full half-block down the street. Naturally, this was sufficient cause for a grand opening the likes of which has rarely been seen in the motorcycle industry.

It was a gala affair, with many famous celebrities in attendance.

We don't have the space to mention everyone, but Vic sent us this composite of the entire weekend's activities.

Good luck, Vic. You'll need it.



WOW! WHAT A MAMMOTH NEW SHOWROOM!

HULLO. VIC? YA, THIS IS LANA. SEND ME OVER A B9E AND SOME BEL-RAY



I THINK IT'S THWELL!



SHOO-BOP-A-DOO...
VIC, GOOD LUCK TO YOU.

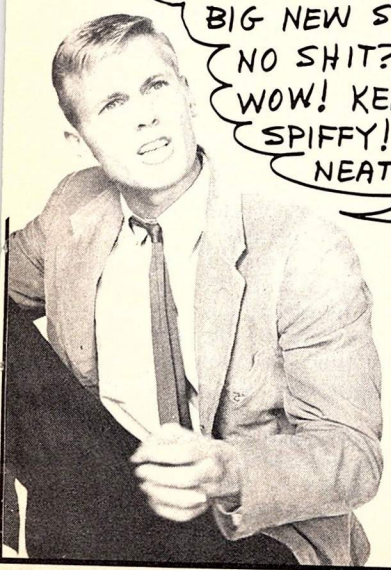


CEREMONIAL KUTTING OF THE KRAUSE KAKE

VIKTOR... YOU DID GOOD



WHAT? KRAUSE GOT A BIG NEW SHOP?
NO SHIT?
WOW! KEEN!
SPIFFY!
NEAT-O!



ARCHIE! KRAUSE IS GONE!!



EDITH, YOU DUMMY. HE JUST MOVED DOWN THE STREET. CALM DOWN AND GET ME A BEER.

HEY VIC... HOPE YOU MAKE A FIST FULL OF DOLLARS.



RACE-PIREPIPING YAMAHA ROAD RACERS

Like anything else, there's a right way and three wrong ways.

By Jeff Wagner

For almost ten years, the entry list of any 250cc road race has read like the guest list of a Yamaha owners' club function. As Yamahas won races they sold more of their production racers, thus filling the fields of future races with their over-achieving two-stroke twins. Now, it seems that with rare exception, to race the 250GP class means to ride a TZ 250, TA 250 or TD 3 model. These three models are virtually identical, differing only in the year of manufacture and the type of cooling system.

With so many of these bikes around, proper tuning data and specifications should be common knowledge. Yamaha seems to have applied the philosophy that's used in their musical instrument business: it's up to each owner to tune his own way.

Some riders are more tone-deaf than they should be; it is the hearing of these people that this article intends to improve. The development staff at Yamaha may have nearly perfect pitch for tuning, but they don't put forth any giant effort to get the tuning info into the hands of their customers. They actually do publish much of the important data, but it is so disorganized and screwed-up with misprints that it closely resembles the paper in the bottom of a birdcage.

Throughout this article data will be presented that has been gleaned from several sources: Yamaha's various manuals and data sheets, advice from competent racers, and from the outhouse walls at various famous racetracks.

This info will allow you to tune your engine to produce good power with good reliability; most of the specs come from Yamaha and are double-checked for errors. Only a pill-crazed masochist would deviate from the factory specs which were so painstakingly and expensively arrived at.

The "production racers" as Yamaha calls them, are exactly that; they are built on a production line just like a Waring blender or a Hudson Hornet and are just as likely to have machining and assembly errors that will decrease the performance from the design values. Bore sizes, port locations, compression ratios, clearances and other important dimensions may be light years out of specification when you pull that shiny new toy out of its carton.

Obviously, not many engines are actually built to the "blueprint dimension," and so each will run differently (crappier). Blueprinting your engine involves no magic; usually, only simple measurements and modifications are needed to bring the

motor's performance up to a respectable level.

In order to perform the unnatural acts of measuring the engine's critical dimensions, you'll need a few tools not ordinarily found in the basic trackside toolbox. A set of vernier calipers with both metric and English scales (about 3" or better capacity) is invaluable, because it can measure all kinds of things with reasonable accuracy over a wide range of dimensions. Your local machine tool supply house can fix you up for \$15.00 or less.

For measuring piston fit, a good set of feeler-gauge tapes like the Starret number 667 in sizes of 1½, 2, 3, 4, and 5 thousandths should be gotten. These are 12 inches long and can be laid the full length of the cylinder for hassle-free measuring. The next best choice would be to make your own gauges from feeler stock cut from a roll, with action taken to deburr the cut ends.

Measuring the compression ratio is essential, and for that task there is no substitute for a 25 ml buret like those we used to break so often in high school chemistry labs. Try to borrow one if it bugs you to spend \$14.00 for a tool that you may not use all that often. If you are going to buy one, phone all the laboratory supply companies in town; some of them have a killer minimum order, some of them won't sell to the public, and some of them won't (get this) accept cash in their daily transactions. A good buret to get is the Pyrex #2124, which has the stopcock built in to the lower end. You should already have a dial indicator and a torque wrench. An additional luxury would be a 50-75 mm micrometer for piston measurements, but it's not necessary as the piston fit is always checked with the feeler gauges anyway.

With all the sales pitch for tools out of the way, it's time to start work on the engine. Start the teardown with a close look at the oil that gets drained out of the gearbox; there will always be some metallic particles in the oil, but lots of swarf should tip you off to really snoop around the inside of the gearbox.

Next on the list is a visual inspection of the cylinders, pistons and heads. Remove the head and look closely at the outer regions of the combustion chamber, because it is here that demon detonation makes its home, leaving the tell-tale pock marks in the squish band of the head. Note the condition of the squish band and record what timing and jetting was used in the engine for future reference. Remove

the cylinder and clean it thoroughly in hot, soapy water while looking for any voids in the plating of the chrome cylinder wall. Any flaking or peeling of the chrome above the ports means it's NFG; but a loss of chrome below the ports, or at the very top of the barrel, should not stop you from using it, but keep a close watch on the rate of decay.

If the number of miles on the engine is unknown, pitch out the piston pins, and their bearings and circlips. Replace the piston pin bearings each time you install new pistons, which would be every 300 miles or when piston-to-bore clearance gets up to the .004" service limit. Piston pins should be replaced when any deterioration of the bearing surface is seen or when ridges are formed on the pin by dragging bearing cages. Used circlips have about as much class as a barefoot accelerator pedal and should NEVER be reused unless you really like disasters.

The most precision-made and costly assembly in the engine is the crankshaft and like everything else, it requires some attention from time to time. Take a good hard look at the big end of the connecting rod, being especially wary of a blackened color that indicates overheating and impending failure of the bearing. Also, measure the bearing play by wiggling the rod's small end from side to side. The angle that the rod rocks through should produce no more than 2mm (.08") of motion at the top end. Replace or rebuild the crank if excessive play is found or if you have over 600 racing miles on it or if it shucked its guts in the last heat race.

Main bearings are pretty bulletproof items and are usually good for the life of two sets of rod bearings, especially if you are using (and you should be) the newer type straight roller bearing on the outside mains. These have a much higher load capacity and price, but have lower friction. The part number on this magic bearing is 933-90000-07 which is a fact that you can quote to amaze your friends, or just jot it down and forget it until it's needed. Do not use substitute bearings from your local bearing store, as they will probably not be the right fit or quality and they will probably throw up before the overpriced ones you get from Yamaha.

The complete crankshaft assembly must be checked between centers for runout, which should be less than .0015" at each of the four main bearing locations. Bringing a crank into trueness requires no more than a swift swing of a brass hammer and

YAMAHA 250 TWIN DATA SHEET (TD3, TA250, TZ250)

CARBURETOR:

Mikuni	VM 34 SC
Needle Jet	0-2
Jet Needle	6F9-3
Slide Cutaway	#3.0
Pilot Jet	#70
Air Jet	#2.0
Starter Jet	#80
Air Screw	1.5 turns out

IGNITION:

Hitachi	#M200-08
Spark capacity	7mm at 500 rpm
Timing	2.0mm BTDC
Charging Coil (ohms)	Large 790, Small 53
Pulser Coil (ohms)	66
Ignition Coil (ohms)	Primary 0.7, Secondary 6000

TOP END:

Piston Fit	.0016"-.0018" new, .004" service limit
Piston Ring Clearance in Groove	.0012"-.0028"
Compression Ratio	7.6 to 1
Trapped Volume	8.85cc

TRANSMISSION:

Primary Reduction	77/23 (3.347 to 1)
	6 speed 5 speed
	% max % max
Gear	Teeth Ratio Speed Speed
First	29/15 1.933 42.1 44.9
Second	27/19 1.421 57.3 61.2
Third	27/24 1.125 72.4 77.2
Fourth	25/26 .961 84.7 90.4
Fifth	20/23 .869 93.6 100.0
Sixth	22/27 .814 100.0

FREQUENTLY-USED PARTS NUMBERS

Piston (air-cooled)	329-11631-00-96&97&98&99
Piston (TZ-250)	430-11631-00-96&97&98
Piston Ring	329-11611-00
Head Gasket (air-cooled)	280-11181-00
Base Gasket (air-cooled)	278-11351-00
Side Cover Gasket	278-15461-00
Piston Circlip	137-11634-00 or 93450-17025
Head Gasket (TZ-250)	932-70207
Base Gasket (TZ-250)	383-11351-00
Clutch O-Ring	932-10-22164

TORQUE RECOMMENDATIONS

Use an anti-seize compound on all threads, and then tighten to the following specifications:

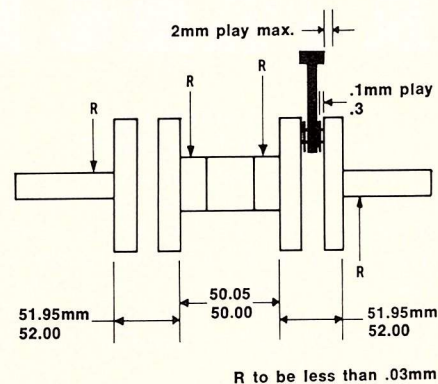
Bolt Size	Location	Torque (lb.-inch)
6mm	Case halves and covers	70
7mm	Ignition rotor bolt	120
8mm	Case halves and heads	150
14mm	Spark plugs	240
Larger	Crank and clutch nuts	600

CRANKCASE STUD TIGHTENING PATTERN

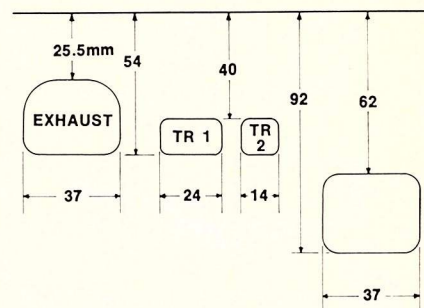
5 1 3 8
7 4 2 6

When this sequence (1 through 8) is completed, turn engine upright and tighten 6mm bolts in order specified by number adjacent to each bolt on the top side.

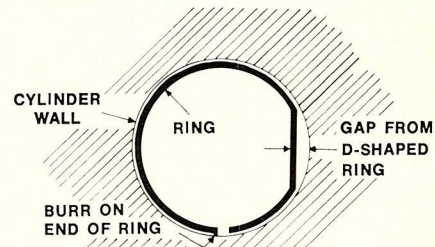
CRANKSHAFT SPECS.



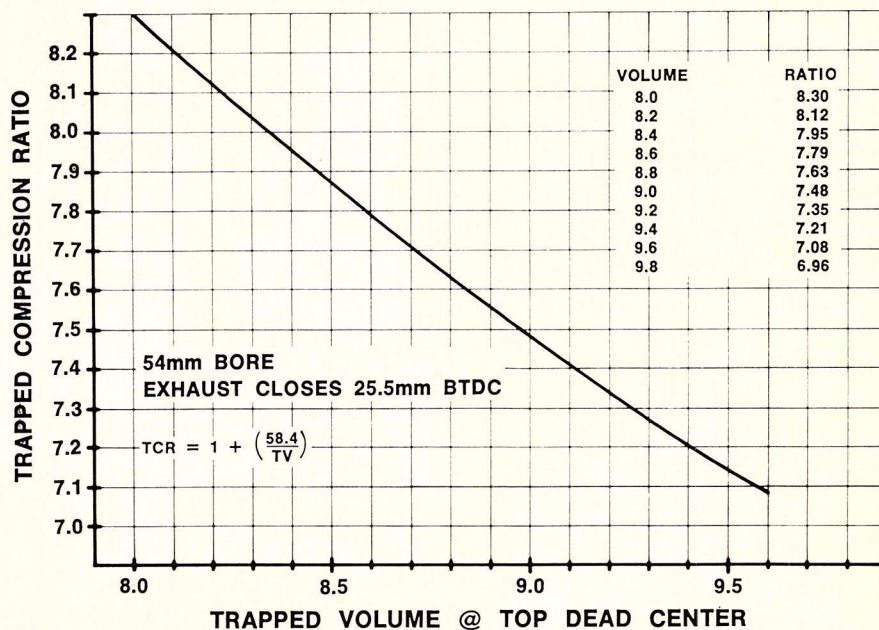
PORT DIMENSIONS



PISTON RING DEFECTS



COMPRESSION RATIO vs TRAPPED VOLUME



frequent checking for runout between hammer blasts.

Rebuilding the crank was sneaked into a sentence a little earlier, and now we'll get back to it. Renovating a crank is really a bastard task if you don't have the right tools, and not much easier if you do have the right stuff, but it can save you a few bucks. The cost of a new unit is about \$160 while rebuilding one can be done for \$60.00 or less, not counting the cost of labor. A cheap way to go is to replace only the rod bearings, thrust washers, and crankpins if the rod's bearing surfaces are not pitted or cracked. The next best way is to get con-rod assemblies (which include a rod, its bearing and pin) and thrust washers, all for about \$30.00 per side. Main bearings would get replaced

every other rebuild. Fifteen tons of press capacity is required to manipulate the pieces, along with a little ingenuity in the tooling department, so you might shop around the local shops to find out how much they charge; some places advertise \$30.00 for labor, which seems like a real bargain considering how much fun it isn't to do one of these gems.

Ogling at the innards of the transmission is about as inspirational as reading the label on a laxative container, but it's still worthwhile. Look for gears that wobble on shafts, pitted or scored teeth, worn shift forks, and anything that may have turned blue from overheating.

A seized transmission will put you on your ass quicker than nearly anything else. Since the clutch is apart, take some

time to glue the steel button into the aluminum pressure plate with RTV silicone or Pliobond, which will prevent the button from screwing its way through the pressure plate.

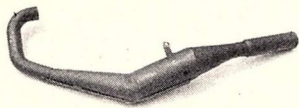
The secret of successful crankcase preparation is in knowing when to stop, not in how far to go. Matching the transfer ducts in the crankcase to those of the cylinder is a traditional two-stroke tuner's chore that most people do because everybody else does it. However good the idea may be in theory, go easy in practice because a re-enactment of Pearl Harbor awaits those who try this on the TZ 250 engine.

The folks back in Japan increased the size of the transfer ducts in the cylinders

(Continued on page 63)

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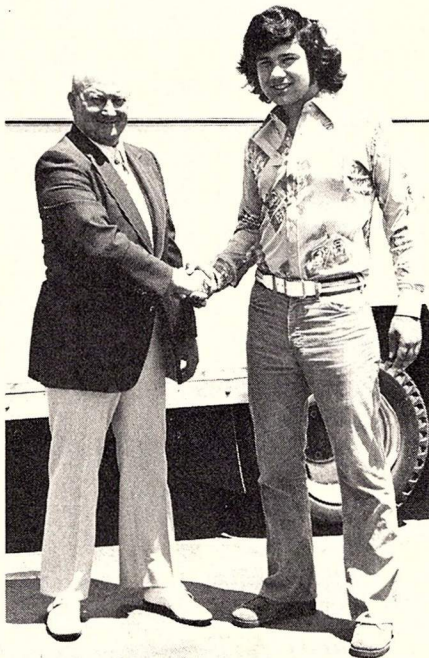
Village Cycle Shop
7d Moto-Cross Rd., Lake City, Tenn. 37769

SPARE PARTS

WELL, TRIPES HAS ANOTHER CONTRACT

Bob Claypool and Marty Tripes have made an agreement that puts Marty on Team MOLLYBLUE. While Marty is campaigning his Bultaco in this year's Trans-AMA, he will be using HRL products exclusively. That means he'll have to take all those Bell-Ray stickers off the old sled.

He will also be a test consultant for all of HRL's new products. Way to go Marty; you got another one!



MAICO NEWS FLASH!

Injuries handicap Maico Trans-AMA team.

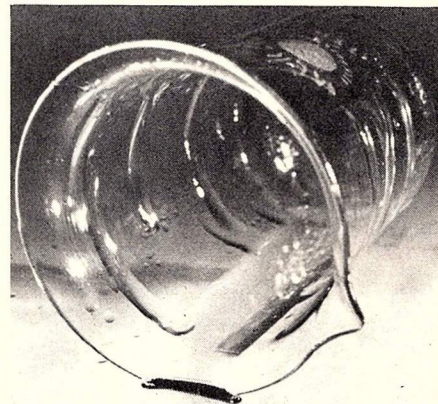
Two Maico factory riders who had planned to participate at the 1975 Trans-AMA had last-minute injuries and will not be able to show the American motocross fans their skills.

Adolf Weil, fourth-ranked world 250 class rider of 1975, broke his shinbone at the Motocross Des Nations, eliminating his hopes of campaigning the Trans-AMA again. The accident occurred in a ten-bike pileup in which Adolf's leg got lodged in Lackey's rear

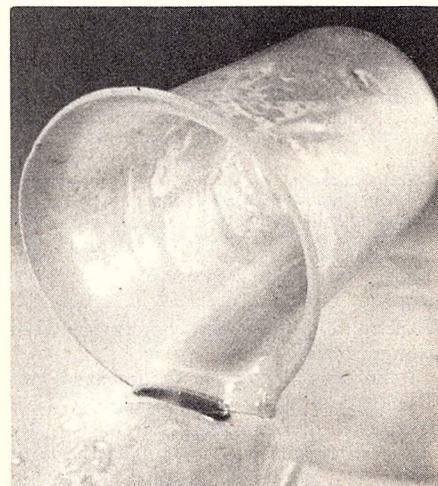
NEW OIL?

That's what the people at Mobil Oil

Company claim. Their scientists have developed an oil that, according to them, outperforms all premium grades of motor oil in all seasons of the year. This new oil is called "Mobil I." They've run the oil up to a temperature of 580°, and it did not burn or



evaporate like the "average premium motor oil." They also froze the oil to 45° degrees below zero and it still



poured, while the others wouldn't.

If they can design an oil to do all of these things, it sure seems possible for them to make a two-stroke lubricant that'll enable them to pass emission laws. Maybe they don't want the two-strokes to live for long. Whatever, let's make an oil that'll save the two-strokers.

(Continued on page 67)

New Products



ANOTHER FACE MASK?

Yep, that's right—another one of those face fenders has hit the scene. This unit is made by Casler. The only thing different about this mask is the fact that it's vented, while all of the other ones must be cut to have any air coming through. They are available in black and silver. And they come with all the necessary hardware for mounting to the helmet. Cost is \$7.50. It is available from most dealers. If you can't find it, write a letter to Casler Performance Products, 1031 West Brooks St., Ontario, CA 91762, or call (714) 986-4537.



FENDERS, FENDERS AND MORE FENDERS

Want to keep that stock look on your bike? Then you have to buy replacement fenders that are carbon copies of the stock units. Hallman Racing has a complete line of replacement fenders for most of the major brands and even some for the more obscure. They're built from high-impact polyethylene, and Hallman claims they're almost indestructible. They have fenders, airboxes and seat bases for Husky, Maico, Bultaco, CZ, Yamaha, Suzuki, Kawa-

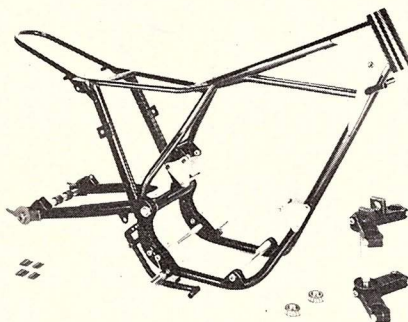
saki, HVA, Penton, Honda and a few oddballs for mounting on just about anything. They come in clear and white. If you want to know a bit more on these fenders, send a buck to these guys, and they'll send you a free catalog. On the West Coast, Torsten Hallman Racing Inc., 1490 Fayette St., El Cajon, CA 92020. Easterners can get it from: Torsten Hallman Racing East, 440 Belden Ave., Addison, IL 60101.



CANTILVERED GOGGLES?

No kidding, Honda's new goggle has a cantilevered strap. That's what they claim, plus foam-filtered ventilation. They come in three sizes, youth, adult and adult-over-glasses models. They also have a tear-off post for mounting tear-off sheets. Red, white and blue adjustable strap is designed to fit over the outside of the helmet, plus the cantilevered strap.

Replacement lenses are available in many colors ranging from polarized, to anti-fog. These new goggles are available from Honda dealers only.



HELP FOR YOUR HONDA

Designed to house the XL 250 or 350 single-cylinder four-stroke engines, primarily for enduros, but can be ridden in motocross. Steering head has tapered Timken roller bearings for stability. Also, the rear suspension has the stock shock position and a lay-down conversion built into the frame. For added

wheelbase, they include three rear wheel adjuster stops.

All tubes and gussets are heliarced and made from 4130 aircraft chromoly. Bare frame weighs 17½ lbs., and the swingarm weighs only 6¾ lbs. Additional weight is saved in the other components like the motor mounts, brake pedal, footpegs, swingarm, bolt, rear axle and wheel adjusters. Using all of the suggested CMS parts, you can easily save 75 lbs. The frame is built around a CR 125 seat and either a CR 250, or an MT 250 tank. Total price for the frame is \$465.00. Triple clamps are extra. For more information on these frames, write a letter to:

CMS PRODUCTS INC.
2134 OLD MIDDLEFIELD WAY
MT. VIEW, CA 94040



THEY USED TO BE CALLED TIBBLINS

Remember those neat Tibblin gloves? Now they're called the "Champion." Still made from the highest quality lambskin they can find. They also boast an unconditional three-month guarantee covering workmanship and materials. They've been testing these gloves under the most grueling conditions they can find. The original gloves were designed by Rolf Tibblin and these gloves still sport the palm pad that cuts vibration and reduces the chances of getting blisters.

For the first time ever you can have your name put on the gloves when you buy them. That's right, JT Racing will place your name on the knuckled area of the glove for about five bucks.

Available in sizes small, medium, large and extra large. Colors are white back with orange palm. The palm pad is also white. High-impact backing is black. These gloves can be ordered through your local dealer.

JT RACING IMPORTS
P.O. BOX A
BONITA, CA 92002
Price is \$28.85.



CHAIN REACTION

Bel-Ray has finally released their chain lube in the large size 16-oz. aerosol spray. This stuff won't fling off, run off, or can't even be washed off. The best thing about the new Bel-Ray chain lube, is the fact that it no longer smells like rotten bat piss. Man, that old stuff made everyone near you gag and head for the portable potty. Now they won't even notice you. Available at all shops who know what quality is. What is quality?



OLD LEATHERS BROUGHT BACK

Remember back about four years when there was a pair of leathers called Big "T"? Those were about the best leathers you could get then, but getting them was the problem. A few of the local shops had them, but not many.

No longer is this a problem. The Knobby Shop International has decided

to bring these leathers back. But this time they have a few changes. Instead of zippers on the lower leg they've installed Velcro strips and a new elastic crotch for easy movement. Each of these new pairs is hand-tailored for a perfect fit. Like most of the leathers around, they now have Jofa Kneecups.

For more information on these leathers, call or write to:

**KNOBBY SHOP
INTERNATIONAL**

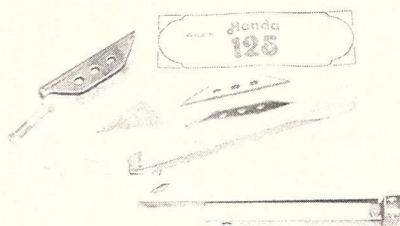
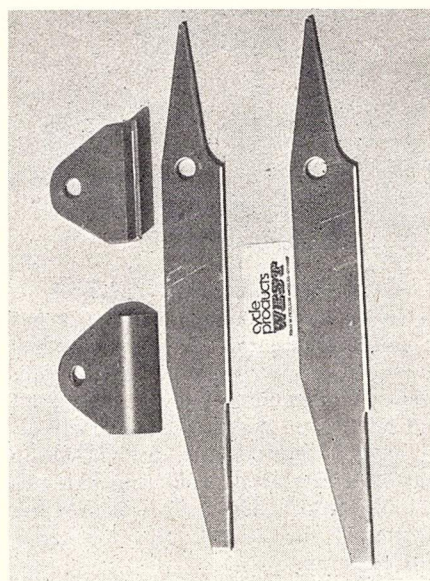
P.O. BOX 1592

LA JOLLA, CA 92038

Cost is right around \$79.

Also can have any size custom-made for no extra cost.

Custom leathers can be made, any color, any style with lettering for \$110. Kid leathers are available in sizes 24-26 for \$59.99.



KIT HONDA

So your old '73 Elsie isn't quite the bike it used to be, but it's what you've got. You can race with them to the first corner, but from then on, it's a bummer. Those long-travel rear ends must have something going, right? Then, Cycle Products West thinks they have something for you.

It's a kit to get almost the same suspension system that all of the new bikes are coming with. Almost, meaning, you get the same travel, but the package isn't as nice.

If you just want to move the shocks forward, then you need the \$14.95

move-up kit. It comes with all the needed mounts and gussets to move the bottom of your shocks forward. This'll give a similar suspension system seen on the new Bultacos. Only bummer, you do the welding. Still a bargain.

For the more exotic, the \$29.99 lay-down kit. You keep the stock mounts on the swingarm and modify the rear section on the frame. The action is a lot like the Penton. It requires a bit more work, but who knows? It might be worth it.

To order your kit, call or write to:

CYCLE PRODUCTS WEST

11900 W. PICO BLVD.

LOS ANGELES, CA 90064

(213) 477-0997



NEW BRITCHES

From the bowels of Buena Park comes a new set of racing leathers. Yes, Yamaha has entered the accessory market with a new design in protection and comfort. Constructed from tough goat-skin and tailored for maximum comfort, claims Yamaha.

They have a new saddle seat construction that is designed to enable the pants to wear longer and to add to the pants' stretchability. They will let the seams live longer if the plan works.

Down around the lower leg, they have tapered the leather to fit better and have a zipper for quick removal. Over the knee and lower shin, they've incorporated a cup made from material like the inside of a helmet. The cups can be removed for cleaning.

Completely lined from waist to ankle with nylon tricot, they also have an inside pocket for holding the I.D., or medical cards.

Yamaha's new leathers come in sizes 28-38 and can be ordered in either black, or Yamaha gold. Both come with a contrasting stripe and are printed with Yamaha. They retail for right around 90 bucks and can only be purchased through Yamaha dealers.

What makes him fly?

The California Kid. Flash. Cross-Up City. Go like hell for twenty minutes and then fall apart at the seams. Spark, but no fire. No depth.

Sound familiar? These are some of the phrases that have been applied to Rex Staten, perhaps unfairly.

We've known The Rocket for some time now, and have been as dazzled by his flashes of brilliance as much as most folks. But few people really know Rex. He won't talk much to a stranger unless he's known him for some time. And getting to know Rex isn't all that easy. Off the race track, he's actually quite shy and answers questions briefly and without elaboration. Lots of people think he's arrogant and won't take the time to converse. Quite the opposite is true. Once you get to know Rex, you find out that he's a pleasant sort. But you've got to get to know him.

We know him and, frankly, like him a great deal. The reason for this interview is twofold: To let you find out more about the real Rex Staten and to sell some magazines. The second reason is almost unimportant.

MC: How did you get the name "Rocket Rex"?

REX: Oh, when I used to race back on the CZs as a privateer, someone from *Cycle News* put that in the paper one week and it stuck. I was winning all the time and was sort of wild over the jumps and all, so I guess the "Rocket" thing stuck.

MC: Tell us about the bike you were riding at Carlsbad. Everyone thought

By the Editors of MODERN CYCLE

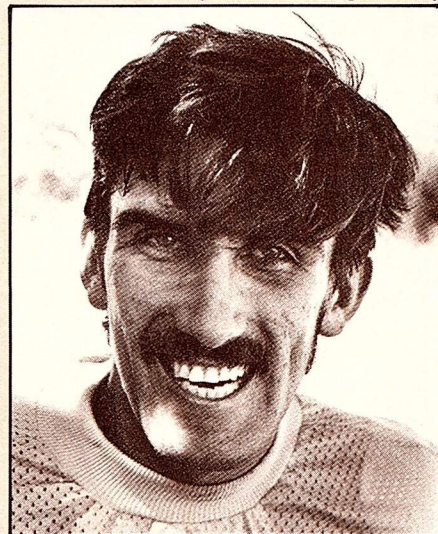
you were riding a real trick factory CZ. REX: That thing? That was the heaviest bike at Carlsbad. It was a '73 desert bike with a four-speed gearbox.

MC: You mean you rode a dated, four-speed motorcycle against the best in the world?

REX: Yeh. And it wasn't really radical. Just something mild that would stay together. It had a Hoover pipe on it—that helped a whole bunch—and a special Basset frame.

MC: Basset frame?

REX: Yeh. He makes it for me special and he'll start to sell them in a while. He's just starting to get into it. The one I rode was made from chrome moly and had basically the same geometry



This is what Rex hung on with during the S.C.O.R.E. race, leading solidly until his motor took a dump.

as a CZ. We had one bike that we made up that had the same geometry as a Maico. It had Maico forks on it and all the good stuff. I had that in my truck at Carlsbad, but CZ told me that if I ran it they'd take my bike back. Right there. The one I rode had the old barrel on it with some of the fins cut off, and I had GP porting done to the inside. And they cut the stock head all up, and we called it a Rocket Rex Replica. They were going to sell bikes like that; just stockers all cut up with stock insides and funny fins.

Everybody thought I had some kind of a trick bike, but it was real close to stock. I had the suspension moved up—I moved it up myself—and I ran gas Girlings with 110-pound springs.

MC: 110-pound springs? Impossible!

REX: Oh, they were way too soft. About half-way through the race, they really started sagging on me. Bad.

MC: Why gas Girlings?

REX: I've had the best luck with them. I was running Konis, but I kept blowing them out in ten minutes. Or I'd break 'em. The shafts would turn blue. They'd fade too much. Girlings worked good for me, so I ran them.

MC: One thing we can't understand: that first turn poster we had in *MC* shows you gassing it like crazy, throw-

TALKIN' WITH THE ROCKET

ing a handful of dirt in Hartwig's face, but the rear end isn't even compressed. REX: Yeh. I couldn't believe that. I looked at that photo for the longest time. I was just done turning and was on the gas hard, and the suspension was all the way up. I just couldn't believe the picture.

MC: What were you running up front?

REX: Believe it or not, I was running stock CZ forks with a three-position preload thing on the fork caps. You could turn it and adjust the fork spring preload.

MC: No air forks?

REX: No. They looked like air fork caps, but I guess they fooled everybody. Those were just preload caps.

MC: What about carburetion? It looked like a big Mikuni.

REX: Yeh. I was running a 36 Mikuni. And other than having my seat raised up, that's all I did to the bike. Oh, I changed bars and grips and small stuff like that, but every rider does that to suit himself.

MC: Tell us about that first moto at Carlsbad. It must have been sort of special and exciting for you.

REX: I came off the start, and I dove into the first turn, and I saw Roger's front wheel right there, and I thought, "I might as well close the door." You know, while I got a chance. He was right beside me going into the turn. MC: How did you manage to beat him into the turn?

REX: I just started drifting to the inside—cutting him off a bit—and he backed off. I guess he thought I was going to overshoot the turn, or go wide. So he cut it real close to try and get me, but I stopped really fast and just made the turn. Guess I kind of surprised him. MC: How did that feel, hole-shotting Roger like that?

REX: It's the first time I did it. Most of the big races I get all scared, so I just told myself that this was just a CMC Carlsbad race. I just sat there staring at the starting gate. When it moved, I took off. And I was first into the turn—man, I was so pumped!

I was just going wide open on the downhill for about five laps, then I looked back and I didn't see anybody behind me! Wow! What happened?

MC: Did you think that they all died in

the first turn?

REX: I was feeling good and strong, but about half-way through, the rear motor mounts on the CZ broke. By the time the moto was two-thirds through, the motor was shaking so bad I could barely hang on. But I just kept on going, and for the last three laps the motor was so loose in the frame that it was actually jumping around in the frame. I thought the frame was broken, or something bad like that. Going into the turns on the last three laps was rough, because the transmission was stuck in third gear. I tried to shift down and couldn't. It was that little pin in the CZ box. That thing broke, so I had to ride the last three laps in third gear only, with the engine jumping almost sideways in the frame every time I gassed it.

MC: How did you come out of the tight corners in third? Slip the clutch?

REX: Yeh. I had to do that. But when Wolsink got me, I went into a turn so hard that I killed the bike. If I didn't go into the turn faster than I wanted to, I couldn't even get out of the corner, slipping the clutch and all. The worst



part was that I couldn't kick-start it because I couldn't get it out of gear, so I had to bump-start it. I pushed it down a little ledge to get it started.

MC: How did you find the energy to push-start a bike after almost forty minutes of racing?

REX: I just made myself. I didn't want to end up with a fifth or a sixth.

MC: After the first moto, how were your hands and arms?

REX: My hands and arms were swollen. I couldn't even open my hands at all.

MC: And you were in pretty good shape for that race, right?

REX: Oh yeh.

MC: Do you think you would have been able to stay ahead of DeCoster if your bike hadn't given you any problems?

REX: I think he would have eventually gotten by me, but I'm sure I could have held him off a lot longer.

MC: You had problems in the second moto, too. Couldn't they fix the motor mounts properly between motos?

REX: They just didn't have time; it would have meant taking the whole swinging arm off and putting a new mount in. They had to clean the air cleaner and weld the pipe. There just wasn't enough time left to do much of anything. All they could do was weld it and thought maybe it would hold. Four laps later in the next moto, it broke.

MC: How did you feel at the start of the second moto? Totally wasted, or what?

REX: No. I felt pretty good. My arms recovered, but my hands were still a bit sore. When I got to the line and saw these big TV cameras all over me, I thought, "Well, here we go again." I just said to myself, "This is another race—a fresh one." I came there to race and got off the line fourth. I stayed there for a while, then I started dropping back when the motor mounts snapped again. Not only that, but I heard a funny sound while I was riding in the second moto. It turned out that a circlip from the piston had come out and went up and down the barrel and scored it all up. They had to put in new cases, a new barrel, just about a whole new motor. But it still stayed running.

MC: Those CZs are astounding for that, aren't they? Tough as hell. Any other motor would have died.

REX: Yeh. They are strong inside. I'll have to say that.

MC: How did you end up in the second moto?

REX: I got a tenth, but I rode conservatively, just so I was sure to finish.

MC: Do you realize that if your bike hadn't given you trouble in either moto, you would have gotten at least a second overall, and maybe would have won the whole ball of wax?



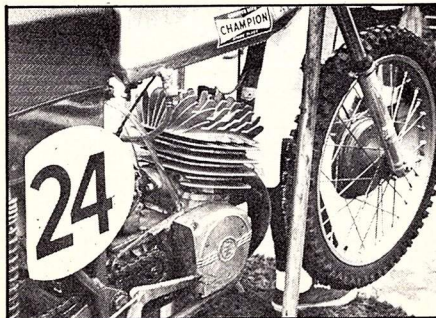
Staton always does well at the stadium-type of races. He says it's because all the people get him pumped.

REX: That would have been nice. Roger had problems in the second moto, so maybe a pair of seconds could have been enough.

MC: How about that S.C.O.R.E. race that was recently held? We're told you rode the entire thing with a broken hand.

REX: Oh, that? I was racing in West Virginia a few weeks before. Stackable fell right in front of me in the first turn. When he fell, I went to miss him—I was just in low gear. His bike was lying on its side with its rear wheel spinning in the air. I hit it and jammed into the handlebars. I broke one of the little bones in my wrist. The one that takes three months to heal. I grabbed my wrist 'cause I knew something happened. It got real hot, and I knew I couldn't ride anymore. The bike was lying on the ground running at full throttle, so I grabbed the spark plug wire and pulled it off before it blew up.

I had a cast put on and was going to lie back and let everything heal up; then I heard about this big-money race coming up—the S.C.O.R.E. thing—that I wanted to race. So a week before the race, I went out and started practicing—with the cast on. I got my hands all blistered and raw, because with the cast on, you can't hang on very good at all. At first, I rode with no gloves. Later, I taped my hand all up. Then I got big callouses over the blisters. MC: You got your hand shaped in one week? Your hands must have been



Rocket Rex Replica. You can make one for yourself by cutting up a stocker, nothing else. Weight? 247 pounds, if you please.

pretty bloody looking by the time you got them shaped up.

REX: The first day I rode, my hands got so bloody I just couldn't hang on anymore. I was in so much pain. I just went home and went straight to sleep. I was in so much pain.

MC: And you got up the next day and practiced again?

REX: Yeh. I wrapped my hands all up in layers of tape, that white surgical tape, then I made a glove and put it on over the whole works and went riding. Then I took a day off, then went riding again. Then Wednesday I went to practice at the S.C.O.R.E. race. They made me ride on the course with the dune buggies, and I thought that was a bummer. There was so much dust I could hardly see. And those dune-buggy guys don't like the bike guys at all. They'd just as soon run you off the course whenever they get a chance. I got the fastest time Wednesday in qualifying, and Saturday we had to race for position on the starting line.

We were supposed to win money or something on Saturday, thirty percent of the purse, I think. Well, I won and got pole position, but they didn't give me any money. Nothing.

MC: Did the promoters hustle you out of it?

REX: Yeh. I don't know what happened. I just never got anything. Anyway, that gave me pole position for Sunday, if nothing else. When that flag went, I pulled a holeshot and started pulling away. But on the third lap, my bike started hissing. I knew something was going wrong. So, I just started to stay at a steady pace so as not to blow it up, because I wanted to finish. At this point, I was leading with Mitch Mayes behind me, by maybe five or six seconds. I kept steady until he started getting tired, then I pulled away from him easy, with maybe a twenty-second lead. By the fifth lap, I had an easy twenty seconds, maybe more.

Then he crashed and that left me with a two-mile lead. Everybody else was out of picture. We lapped all the way to third.

MC: What kind of a course was it? Fast?

REX: It was like motocross, but you'd get going like 80 or 90 miles per hour. You'd get going so fast your eyes would get all blurry and you couldn't even see the bumps. You hit a little hole and you end up on your head at those speeds.

MC: Did you get off during the race?

REX: No, but during practice on Wednesday, I was going down a straightaway wide open when my hands came off the handlebars. Probably because of the cast, but I didn't get off. I was sure scared though.

The big problem in the race was that my bike kept getting slower and slower

and slower. On the eleventh lap, Mayes passed me. He just sort of hung in there and didn't quit. So when my bike slowed way down, he was right there. When he passed me, I had only one lap to go. I tried everything to get by him, but he just came by me down the straight. There was nothing I could do. Then I closed in on him because Mitch was obviously starting to get tired. In one corner he went way wide and I came up underneath him, but the bike didn't have enough compression to keep running while I was braking, and so it just stopped.

Luckily, it was hot enough, so it did restart, and I finished the race. After crossing the finish line, the motor stopped and it never started again. Ever. It was wasted.

First place got \$3,200 and second place was \$380.

MC: Did that seem a bit unfair to you?

REX: I thought that was kind of bad, but there's nothing you can do about it. The entry fee alone was \$400. So I didn't even make back my entry fee.

Plus, CZ was going to give me \$3,000 if I won, so I lost over \$6,000 all told. All that money down the tubes because a motor stud pulled out. I told them to put a 10 millimeter or bigger stud on the barrel, but they said, "No. You won't pull it. It will be good."

You can't tell those Czechs anything. They just don't understand. They're going to do it their way, anyway.

MC: It must have been . . . ahhh, different working with the CZ people, especially after the Maico ride you had for so long. Let's see, you rode CZ for a long time as a privateer, then you were sponsored by Maico, then Honda, then back to CZ.

REX: Well, I got along with them OK, but whenever I asked them to do anything to the bike, they'd say, "No. Leave it stock. Stock is good enough to win with. We want you to win on it stock."

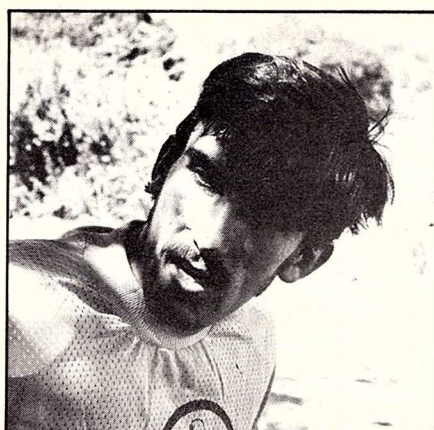
You can't win on a stock CZ. No way. You'll go out and break your neck. I've never ended in my life until I rode CZs. I've gone over the bars four times on a CZ.

MC: What is it? Do you have to pay more attention to the bike?

REX: Yeh. The front ends don't work real good. They work real hard, then all of a sudden, they go soft. You'll be going along and all of a sudden, the back gets thrown up in the air. And it flips you. And there you go, end over end.

MC: You rode Maico for a long time. Tell us about that almost legendary win streak you had going.

REX: I had 28 wins in a row, and I was riding every day. I must have been using up too many parts, because Frank Cooper didn't like the idea and put an end to it.



MC: Do you think you could have won Carlsbad on a Maico?

REX: Yeh. Sure.

MC: Several people have made the observation that they'd like to have seen Roger DeCoster on your bike, and you on his. What do you think of that idea?

REX: That's the thing I've been thinking about, too. I wanted to ask him to switch bikes just so he could see what I was riding, but he couldn't do that, riding for a factory and all.

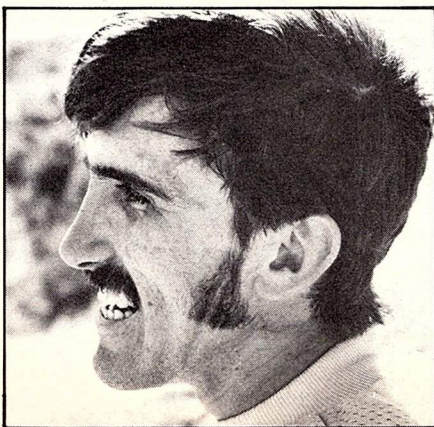
MC: When you switched to Honda, it seemed that they largely gave you experimental bikes to ride. Why?

REX: When I signed with them, they promised me a 400 practice bike, but they gave me a 250 to practice with. Then, when I went to race, I never could get used to the 400s. Each time it was different, too.

One time it was 360, next time it was a 400. Each one had a different frame. I never knew what I was going to be racing from week to week. Then they slipped in a four-stroke. It had good power, but it was really bad-handling. It was like driving a big diesel.

It used to swap and bounce, then bounce some more. It never did the same thing twice. It got good traction, though. In Idaho, I decided to ride the four-stroke because it was all ready. All the noise it made scared everybody. It was a really good cow-trailing bike, but it wasn't too good for racing. With Roger and all those guys.

MC: Why didn't Honda just make you



a bike that wouldn't break? A nice, light, conservative, good-handling bike and let it go at that?

REX: That's what they were trying to do, but it never worked out. The frames they kept sending over from Japan kept breaking. They just wouldn't hold up. The frames were light, but I kept hitting my feet on the ground when the frames would break apart. I kept hurting my ankles all the time.

At last we got a good 360. Now, I guess they've got the 400s all worked out. Pierre is really going good.

MC: You seem to recover from injuries very quickly.

REX: I heal fast, but bruise easy. I just ignore pain. I try to work out an injury when I get one.

MC: What do you do to get in shape and stay in shape? Any special training?

REX: I run 3.2 miles every day, some of it through deep sand. Then I rest, then run some more. I always keep an eye out for cars when I'm running; they seem to try to get runners. Then I go riding later in the day.

MC: How long do you normally ride when you're healthy?

REX: I try to ride the equivalent of a 45-minute race, but I never seem to make it. Usually, the bike breaks or something happens to it. Then I have to take it to the shop and get it fixed. Then it takes five days to fix it. Especially when I rode for CZ. They took so long that I just had to stay in shape with a lot of running. They never even gave me a practice bike . . . even though every Expert around without a ride was given a CZ to campaign. Mostly, I just raced on weekends at CMC pro races. Those are a lot of fun, and I almost always win. Even against any of the National riders who might happen to show up.

Like one time Weinert showed up at Carlsbad; he was on a Yamaha and I was on my Maico. It was the beginning of the year and I knew Carlsbad pretty good; Jimmy was on a 400 Monoshock.

We started dicing it out; I won the first race. Second race, he beat me on the start and tried to slam me into the fence in the first turn. I stopped real fast and cut inside of him, and then I passed him because he went too wide. Then I did this little cross-up over a jump and he passed me back. When we got to the top of the uphill at Carlsbad and made the corner, I just turned it wide open and left it on. Scared me half to death. But I passed him down the hill. Then I started pulling away from him; his bike wasn't handling too good.

Then the next week, he showed up at Saddleback with his good Yamaha and he was racing me. Third gear was going out on my 400 Maico—must have chipped a tooth—so I just waved him by, but he didn't pass me. Then on the last lap, he went wide open by me

and crashed. And I didn't. All the crowd was booing him because he tried to crash me. So I rode over to him and he looked all scared, like I was going to punch him out or something, but I just reached over and shook his hand. The crowd started cheering. It kind of made him feel bad.

MC: Tell us about Bassett. He's your sponsor and a little more . . . ?

REX: John helps me a lot. He can't do everything, but he helps pay some of my bills. He wants me to win and doesn't care how much it costs. In fact, he just bought me a new 370 RM Suzuki to ride. He's just like another dad to me . . . he comes out to all the races. He's really good to me.

He makes boat racing headers and those water jet things. They work really good on boats. Even though he's into boats now, he's making some bike parts that'll be for sale real soon. The big thing is going to be aluminum swing-arms for the 250 and 370 RM Suzukis. [Here's the info: BASSETT RACING PRODUCTS, 2222 West 2nd Street, Santa Ana, CA 92703. The arms will run about \$115 each and should be ready for shipping by mid-November.]

There's someone else I want to mention, too, and that's Triumph-Suzuki of Pomona. They help me a whole lot and Chenda is a good mechanic.

MC: Do you think you can beat the best in the world on good equipment?

REX: I don't know if I can beat them all, but I'm sure I can hang in there with the top Americans without much trouble. I should do really good on this new Suzuki.

MC: You rode our test RM 370. What was your opinion of the bike in standard form?

REX: It was really good. I couldn't believe how fine it handled for a stock bike. It's better than some factory bikes.

MC: What American rider gives you the most trouble? Who's hardest to pass?

REX: Lackey or Pomeroy. If all bikes are more or less equal. They're the hardest competitors. All those other guys are psyched-out, 'cause they think I'm crazy.

MC: What about the Man himself, Roger DeCoster? Is he as good as everyone says he is?

REX: He's got a lot of talent, and he's been at it for a long time. He knows all the little tricks and how to wear people out. He gets behind you and stays right there until you get tired. That's how a lot of the Europeans do it.

MC: Do you get along with DeCoster off the track?

REX: Sure. He's a nice guy and doesn't have a big head. He's there to win and does the job.

MC: What about that move you put on DeCoster on practice day at Carlsbad? When you passed DeCoster at the start/finish sweeper?

REX: Oh, that. I was trying to find some of the lines he had—lines he was using—when I came around the corner and saw that outside berm. I decided to use that on the next lap, just to see how it would work. When I hit the corner on the next lap, I came off that berm wide open and sliding and saw DeCoster a little bit in front of me. I said to myself, "All-right. I got him!" There was this little jump right after the turn and when I got there, I cut him off. I wasn't about to shut off, but he had to, or crash. I thought to myself, "Well, he'll shut off." He shut off.

MC: What are your immediate plans?

REX: Right now, I'll be riding a 125, 250 and 400 Yamaha, just to get in shape. Then I want to pick up the last few races of the Trans-AMA on the 370 Suzuki.

I'd like to get another factory ride, maybe in the spring. I'd like to ride for either Suzuki or Yamaha. They have fast bikes that work and don't break much.

I'd also like to go to Europe and get some experience. Like Lackey. When he came back, he was so much better than when he left, that there's no comparison.

MC: Talking about the future . . . there seems to be a trend towards the Coliseum-type motocross. Do you like that sort of racing? You appear to do exceptionally well at it.

REX: I like it with all the people there. It gets me all pumped up. Even if I don't like the track, I just make myself like it.

That sort of racing, while not real motocross, is good for the spectators. And the spectators pay the money one way or another. So if that's what they like, that's what the promoters will give 'em. You're going to see a lot more of that kind of racing in the next five years.

MC: What other kinds of racing have you played around with? Besides MX?

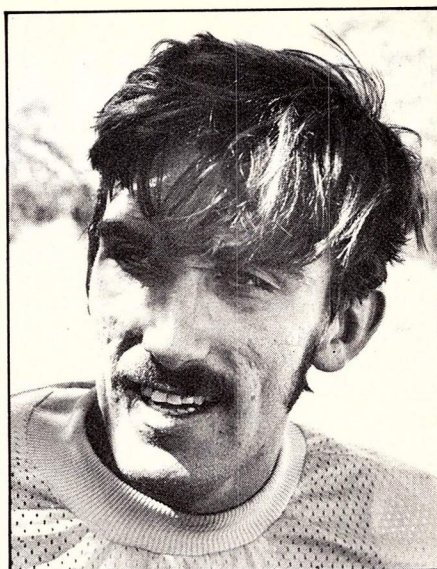
REX: I've raced TT; in fact, the first time I raced TT, I won. I won five out of the first six races, and they wanted to bump me up to Expert. So I quit TT racing. Those guys go too fast for me.

I used to race some desert. That's what I really started out on. For about five years solid, all I did was ride desert with my dad. The first desert race I ever entered, I won, too. In fact, that was the first race I ever entered in my life.

MC: You mean you won the first time you raced? Disgusting!

REX: Yeh. It was on a 175 Ossa, that I rode in the 200 class. And I won overall. I was only 15 at the time, but I'd been riding bikes since I was nine. I'm twenty now, so I've got eleven years of riding behind me.

MC: Did you get fast right away? Or were you a natural?



REX: No. I took my time. My dad never pushed me. Now, you take Jim Fishback. His dad was always pushing him to hurry up and make Expert, or do this or do that.

My dad used to tell them that he'd raise his kid his way and they could raise their kid their way. Fishback got fast right away, then he got hurt. My dad always kept me hanging back a little bit. I think that was better for me.

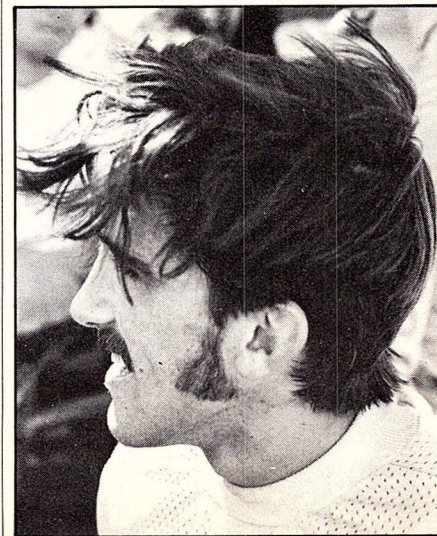
When I finally moved to Expert, I knew more than half the guys riding there. A lot of guys who jump right from Amateur to Expert start pushing wide open right away, and the first thing they do is crash. They get hurt and progress stops. It's better to take your time.

MC: What about long-range plans?

REX: I'll race for a good long while, and then someday I'd like to open a shop or be a machinist. It's a trade I took in school.

But my immediate plans are to do real good on this 370 Suzuki we're setting up. Then maybe next year, I'll be sitting on the starting line right next to Roger on the same kind of bike. Now that would be interesting to me.

MC: Yeh.



DUAL TEST

YAMAHA 125 YZ AND MX

It's still a horsepower race.

By the Editors of MODERN CYCLE

The stupidest thing you can do nowadays is to race motocross in the 125 class. The reasons are many and profound. A few are listed here, in no particular order:

1. It costs more to maintain a 125 than any other class bike.
2. In anything other than the Novice and Beginner classes, you cannot do the job on just a stock-engined bike.
3. The 125 hot-blooded racers break more often than the larger bikes, simply because they are strung out at maximum revs all the time.
4. The competition is absolutely ferocious in the 125 class—and at all levels.
5. No matter what 125 you're riding now, chances are it'll be dated within the next six months or so.
6. To win, you almost have to own a Yamaha, or spend huge heaping gobs of money to make another brand competitive.

If you know anything at all about racing, you will not attempt to argue

any of these blanket statements—especially if you've ridden the two latest bullets from the Yamaha factory, the MX 125C and the YZ 125C.

It used to be that the YZ version was the racing version, while the white tanker was the lower-priced—and lower-performing—spread.

But no more.

Because now, both versions are good. And both are fast. Yet they're still different and distinct from each other.

You already know that the YZ 125 pulls more horsepower than anything else on the dyno, with the exception of the exotic and outrageously expensive roadrace-equipped Maico 125. Maico 125s are not that easy to come by, and dealers are not on every corner. Also, the factory hop-up parts must be special-ordered, making the Maico 125 more of a special-built unit than a production unit.

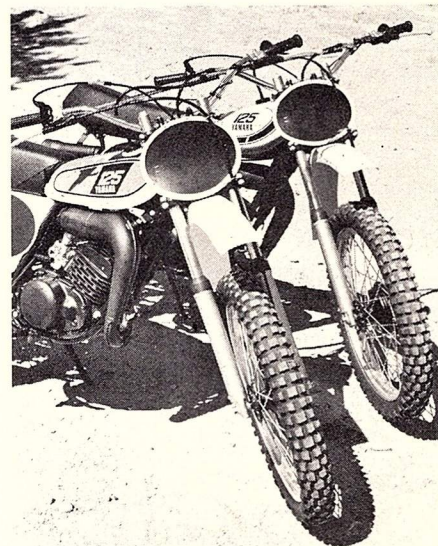
It's a different story with Yamaha. Chances are that if you live in Lost Rock, Nebraska, there's a Yammie dealer right down the road.

And right on his showroom floor, you'll be able to find the necessary muscle to do in every other stock bike you can buy. This muscle comes in two separate and distinct versions.

Basically, the YZ looks identical to last year's version. Not until you get down on your knees and study, can you tell the few differences that Yamaha has incorporated.

Right off the bat, you notice the new footpegs. Not really new in design, the means of affixing them to the frame is the big change. Last year, the pegs were held to a splined shaft by pinch bolts. If they came loose, they would strip the splined area right off. Now, they're welded to studs that are in turn welded to the frame. Very strong, but the peg on the right side has a long bracket that looks like it's weak. We didn't bend ours, but it ought to be looked at often. The YZ has different pegs from the MX. The ones on the YZ seem to be slightly better.

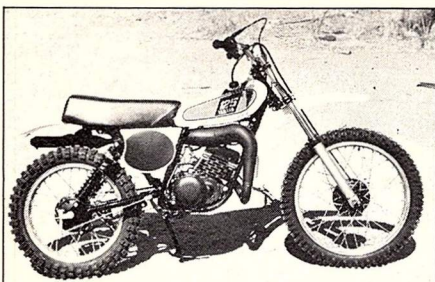
Rear brake pedal seems slightly different from last year's. The design is



the same, but the top of the arm that holds and actuates the brake has the pivot directly in line with the swingarm pivot bolt. This'll give the best possible braking and keep it consistent, no matter whether the suspension is compressed or extended. Pedal area is one of the best around. It allows you to place only the tip of your toe on the pedal yet still have maximum control over the brake.

Brakes are among the best of the lightweight class—especially in the front. It's light and stops with authority. Unlike the bigger bikes, the cable doesn't flex the lever out of your hand.





NAME AND MODEL Yamaha MX 125C
 PRICE, SUGGESTED RETAIL \$890
 MOTOR Single cylinder, air-cooled,
 two-stroke, reed induction, piston port
 BORE/STROKE 56mm x 50mm
 DISPLACEMENT 123cc
 COMPRESSION RATIO 7.5:1
 TORQUE 11.65 ft.-lbs. at 9500 rpm
 HORSEPOWER (ACTUAL) .. 18.9 at 10,000 rpm
 CARBURETION 30mm Mikuni
 STANDARD JETTING FROM FACTORY:

MAIN JET 210
 NEEDLE JET P-4
 NEEDLE 6DPI
 PILOT JET 60
 NEEDLE POSITION 3rd
 IGNITION CDI electronic
 AIR SCREW (TURNS) 1½
 RECOMMENDED SPARK PLUG B9EV NGK
 TIMING AND PLUG GAP 2.0 +/- 0.15mm
 B.T.D.C.

PRIMARY DRIVE Helical gear
 FINAL DRIVE 428 chain
 GEAR RATIOS:

1. 2.538:1
2. 1.933:1
3. 1.555:1
4. 1.300:1
5. 1.142:1
6. 1.045:1

AIR FILTRATION SYSTEM .. Twin foam filters
 LUBRICATION Premix
 RECOMMENDED OIL AND RATIO

OF MIX Yamalube R; 20:1
 FUEL TANK CAPACITY 1.5 gal.
 OIL TANK CAPACITY (IF ANY) None
 RECOMMENDED GASOLINE (FACTORY) Premium
 FRAME (TYPE) Split cradle, mild steel
 WHEELBASE 57.7 inches
 STEERING HEAD ANGLE 58° for 30 min.
 TRAIL 140mm
 GROUND CLEARANCE 10.8 inches
 SEAT HEIGHT 32½ inches
 FRONT SUSPENSION Telescopic fork,
 190.5cc cap.

REAR SUSPENSION Monocross unit,
 275cc cap.

WHEELS:

FRONT 21 in. DID, conical hub,
 cable-operated
 REAR 18 in. DID, conical hub,
 cable-operated

TIRES:

FRONT 3.00x21
 REAR 4.10x18

BRAKES/HUBS:

FRONT Internal expanding
 REAR Internal expanding
 FENDER MATERIAL Plastic
 WEIGHT (ACTUAL) 186 lbs.
 EXHAUST SYSTEM Up-swept, cross-through
 pipe

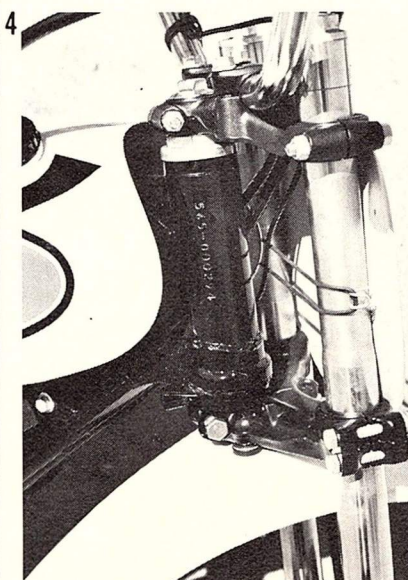
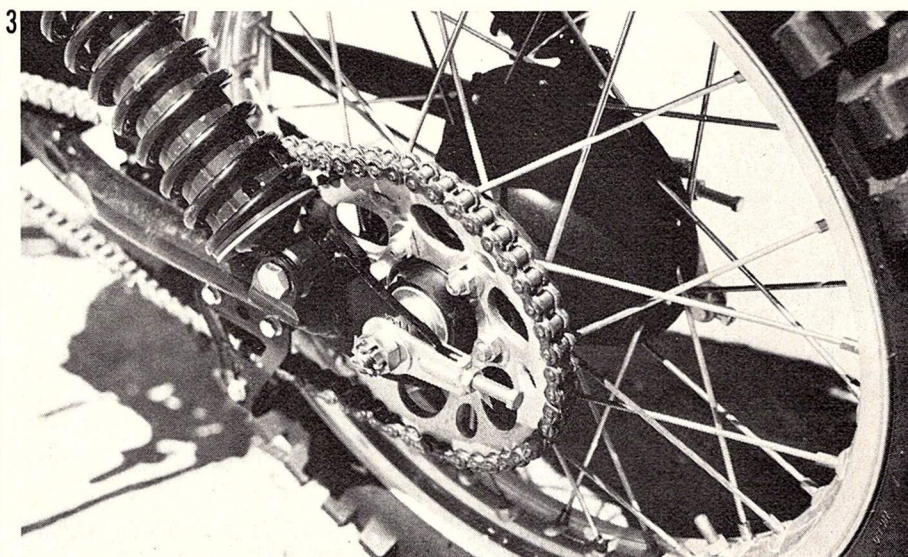
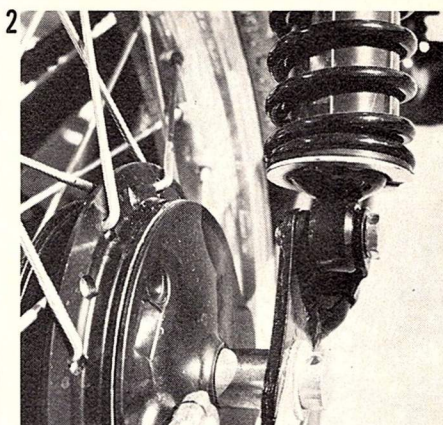
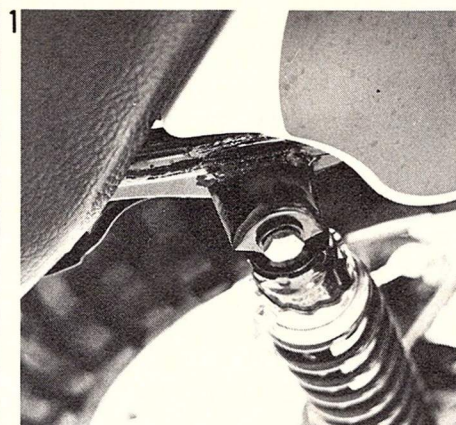
SILENCER/SPARK ARRESTER Yamaha
 spark arrester

STARTER (KICK, ELECTRIC,

LOCATION Kick, right side
 PRIMARY START Yes
 GUARANTEE Manufacturer defects only
 INTENDED PURPOSE OF BIKE

(FROM MFG.) Off-road, motocross
 COUNTRY OF MANUFACTURE Japan

125 MX



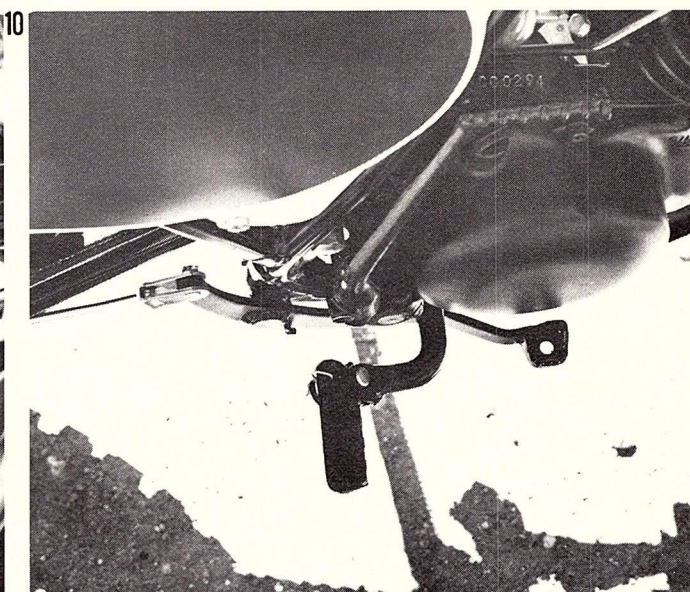
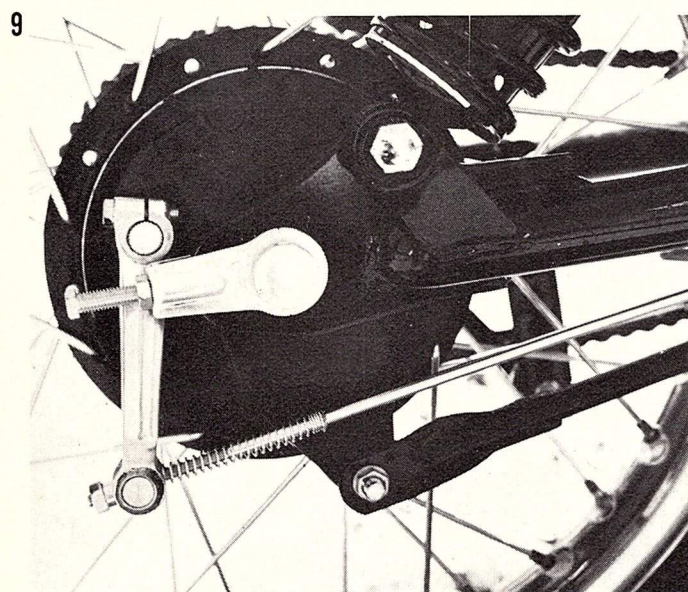
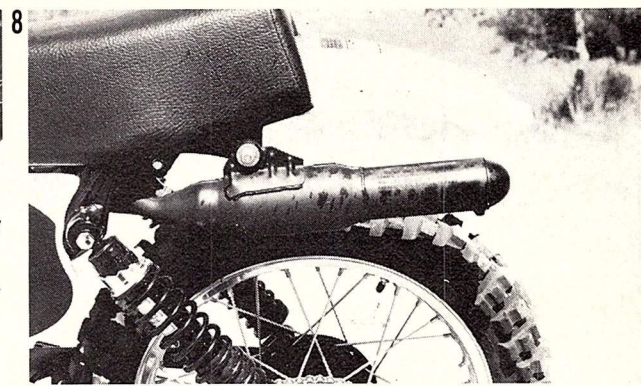
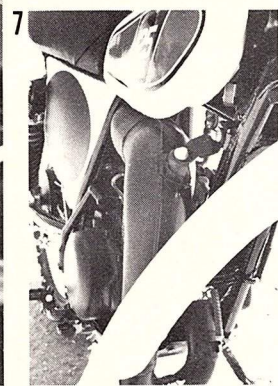
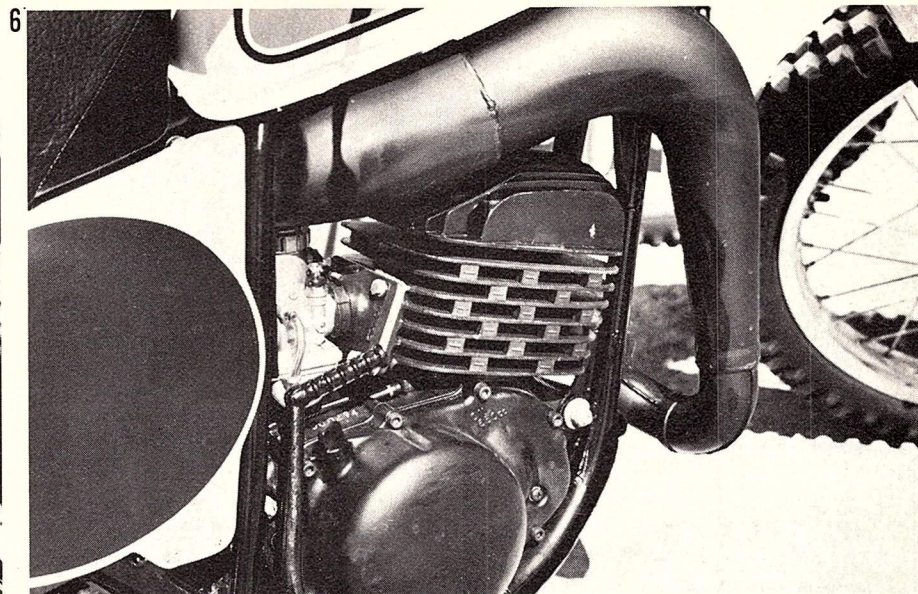
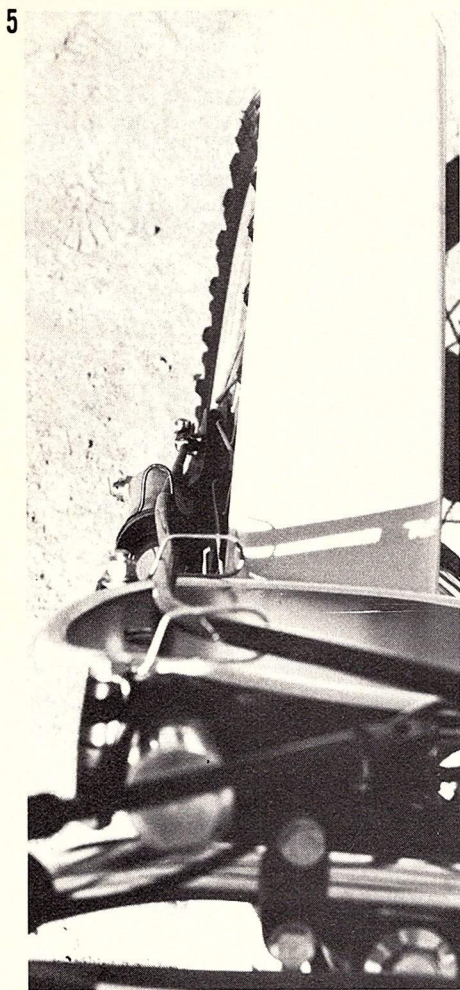
1 Shock mounts on MX limit accessory bolt-on units and appear to be a tad on the flimsy side

2 Swingarm lower shock mount was beefy on the MX and had plenty of clearance.

3 Rear hub was the same on both bikes. Kayaba shocks are identical to the ones on the TT 500 four-stroker. Rear sprocket has bolts hefty enough for a 400 something or other.

4 Turned-down fork tubes allow for easy removal. These are the same forks used on the bigger Yamaha. While they almost work OK on the 125s, they do not cut it on the bigger bikes.

5 Typical of details common on most Yamahas: three guides for the front brake cable.



6 MX barrel had silencer blocks; the YZ didn't. Pipe came up on the right side on the MX; left side on the YZ. Some riders complained of thigh burns from the pipe.

7 Pipe mounting is well thought out and we experienced no breakage.

8 Krizman/Yamaha muffler on the MX was heavy and restrictive. It was much quieter than the YZ, though. We've seen dyno runs with a Skynway pipe and they show increased power and less DBs.

9 MX had tube steel stay arm, while YZ had lighter aluminum unit. Wheels were identical on both bikes, brakes were superb on both machines. Much of the chattering and hopping from years past is gone because of relocated brake rod pivot position. Now when the brake pedal is depressed, the action is right across the swingarm bolt.

10 MX had slightly different pegs than the YZ. Ours didn't break, but we never trusted it. There's entirely too much hanging out too far.

The main reason for this is that the cable is much smaller in diameter, but is still strong enough to work. All of the cables are smaller, but they needn't be any larger than they are.

Front forks are the exact same units as on the bigger bikes. They aren't considered good on the larger bikes simply because they flex so violently, but on the small bike they're decent. They have 7" of travel and the damping is fair. All in all, they function adequately for the small-bore racers.

There's not too much you can say for the tires that isn't negative. They are nothing but junk. With good tires, the bike is much more sure-footed. We slipped a Metzeler 3.00x21 on the front, and all of the front-end washout disappeared. Evidently, the steering geometry is correct—it's just that the tires don't allow the chassis to work to its full capability.

No other racing 125 has the rear suspension qualities of the 125 YZ. The MX has a middle-of-the-road rear end, like the Suzuki RM does, and it works OK, but not nearly as well as the rear end on the Monocross.

Rear shocks on the MX are zeroes. At least ours were. The test MX came with Kayaba shox and very heavy springs which traveled about three inches and then no more.

The front end is the same on both machines, but Yamaha blew it by putting shocks on the MX. The Monocross setup should be used on both bikes. If you were to compare the handling of these two bikes, you would find the YZ a full class above the MX.

According to Yamaha, the MX engine has been de-tuned slightly to make it more of a dual-purpose type of bike—to be more of a play bike than the YZ. We drag-raced the two bikes and

the YZ was slightly faster than the MX. But due to the fact that the YZ is much pipier then the MX you can ride the MX almost as fast as the YZ. Under the same rider the YZ is definitely better, if that rider is capable of keeping the bike at its power peak. Under a novice or beginner, the MX is the machine to choose. Experts, the YZ.

Both of the bikes have the best pipes around. They snake their ways over the cylinder and back over the airbox. On the YZ, the pipe comes up on the left side; on the MX, the pipe comes over on the right. Why they don't have the same pipe on them is beyond us.

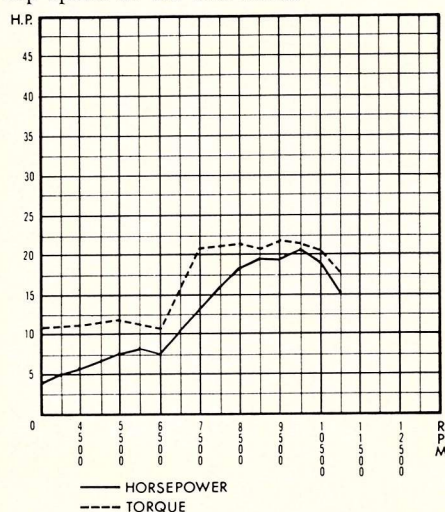
The MX comes with a Yamaha muffler that is very restrictive, but it is legal. Our YZ came with a Skyway super silencer that made the bike very quiet, but still kept it fast. With the YZ, you get as an addition the muffler that came on last year's bike. It's louder



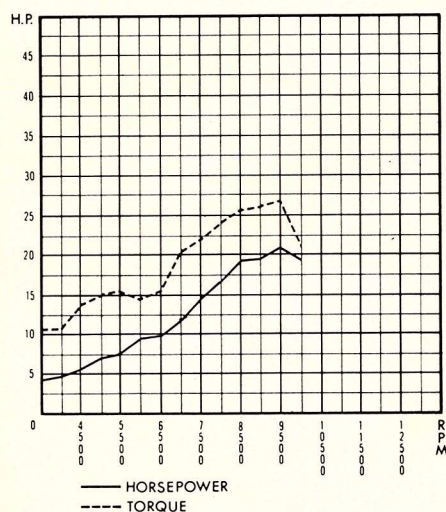
and not legal, but it's smaller and more out of the way. Performance is about the same. It's all up to you.

Both bikes came with Mikunis and reed induction. The YZ has a black-bodied 30mm, while the MX has an unpainted body. The only difference is the color. According to Yamaha's Bud Parker, the engines are exactly the same except for the pipe and the ignition. The YZ has the same system as last year, but the MX has an ignition system like the RM Suzuki and the Kawasaki.

On the YZ, they still have that pulser that has to be moved in order to set the timing, but on the MX, all you have to do is line up the marks. The MX ignition system also serves as a retard device, allowing the engine to rev only so far. This is probably the biggest reason for the difference in top speed of the two bikes.



YAMAHA 125 YZ
With Yamaha pipe and pickle muffler.



YAMAHA 125 YZ
With Skyway up-pipe and super silencer.

The bikes share many frame and other miscellaneous components with each other, and have only minor differences in those parts that aren't identical. Little things like the side panels are different only to accommodate those suspension



Dat's why they call him the Rocket.
Staten loved the little yellow YZ.

and pipe differences mentioned above. All fenders, seats and wheels are the same.

For some strange reason, Yamaha has installed silencer blocks in the fins of the MX, but not on the YZ. Why not put them in both?

Yamaha says that the tank on the MX holds 1.5 gallons of fuel while the YZ's holds 1.3 gallons.

To help cut the weight, they've made the backing plates out of magnesium instead of heavy aluminum. Now, that's cutting hairs. But every ounce counts in this highly competitive 125 class.

We found the seats to be excellent and their union with the tank ideal. No point on the bike gets in your way when you're riding. A few of our riders said they burned their legs on the up-sweep section of the pipe, but unless you really work out when you ride, you'll never get burnt. Since the pipe fits loose in the front section of the bike, it's a good idea to check it for cracks after each ride.

Both of the bikes employ the same filter arrangement as before, but the filter material is changed. Last year, they used those fuzzy filters that fell apart after a few rides. But now, they've installed foam filters that are about ten times better; at least they'll last for a while. They require the same maintenance as any foam filter, except you have to do it twice as much. That's

right; there are two filters stuck in that plastic airbox of the YZ. After servicing the filters, be sure that you install them with copious quantities of grease on the sealing edges. This is because the two units are hooked together by the long rod, and leakage is not uncommon. The MX has only one filter.

Like most of the 125s around, these have 428 chain. That's fine if you just cruise the bike around; but if you plan on racing the bike and want to get the maximum out of the thing, then you'd better replace the sprockets and the chain with a CH Industries 520 kit. The kit includes both of the sprockets and a cut-to-fit DID 520 chain. With a chain this large on your bike, you'll never have another problem. Stretching is also reduced, because the chain is much stronger and can take the power pulses.

All of the stock controls are passable, but the bars are the same things they put on the big bikes. They are just too wide and the sweep-back isn't enough. They tend to pull you over the front of the bike when you try to stand for bumps.

We never had any problem with the spokes coming loose on either of the bikes, except when they were brand-new. Once they were seated in, they seemed to grab hold well.

Rims are the shoulderless DID's and seem to last better than the Akront rim of the same design. None of the other rims you can buy are as good as the rims that come on the Hondas. They seem to be made from a stronger alloy



NAME AND MODEL Yamaha YZ 125C
 PRICE, SUGGESTED RETAIL \$990
 MOTOR Single cylinder, air-cooled,
 two-stroke, reed induction, piston port
 BORE/STROKE 56mm x 50mm
 DISPLACEMENT 123cc
 COMPRESSION RATIO 7.5:1
 TORQUE 11.65 ft.-lbs. at 9500 rpm
 HORSEPOWER (ACTUAL) 20.81 at 10,500 rpm
 CARBURETOR 30mm Mikuni
 STANDARD JETTING FROM FACTORY:

MAIN JET 210
 NEEDLE JET P-4
 PILOT JET 60
 NEEDLE 6DPI
 NEEDLE POSITION 3rd
 AIR SCREW (TURNS) 1 1/2
 IGNITION CDI Electronic
 RECOMMENDED SPARK PLUG B9EV NGK
 TIMING AND PLUG
 GAP 2.0 +/- 0.15mm B.T.D.C.

PRIMARY DRIVE Helical gear
 FINAL DRIVE 428 chain
 GEAR RATIOS:

1. 2.538:1
2. 1.933:1
3. 1.555:1
4. 1.300:1
5. 1.142:1
6. 1.045:1

AIR FILTRATION SYSTEM Wet foam
 rubber, twins

LUBRICATION Premix

RECOMMENDED OIL AND

RATIO OF MIX Yamalube R: 20:1

FUEL TANK CAPACITY 1.3 gals.

OIL TANK CAPACITY (IF ANY) None

RECOMMENDED GASOLINE (FACTORY) Premium

FRAME (TYPE) Double cradle, mild steel

WHEELBASE 57.7 inches

STEERING HEAD ANGLE 58° for 30 min.

TRAIL 140mm

GROUND CLEARANCE 10.2 inches

SEAT HEIGHT 33.3 inches

FRONT SUSPENSION Telescopic fork,

190.5cc cap.

REAR SUSPENSION Monocross unit,

275cc cap.

WHEELS:

FRONT 21 in. DID, conical hub,

cable-operated

REAR 18 in. DID, conical hub,

rod-operated

TIRES:

FRONT 3.00 x 21

REAR 4.10 x 18

BRAKES/HUBS:

FRONT Internal expanding

REAR Internal expanding

FENDER MATERIAL Plastic

WEIGHT (ACTUAL) 184 lbs.

EXHAUST SYSTEM Up-swept, cross-

through pipe

SILENCER/SPARK ARRESTER Skyway spark

arrester or Yamaha pickle muffler

STARTER (KICK, ELECTRIC,

LOCATION) Kick, right side

PRIMARY START Yes

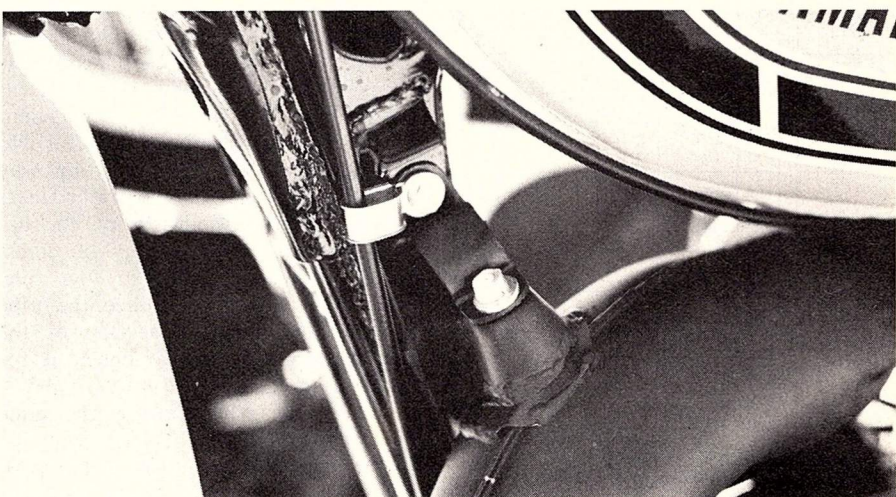
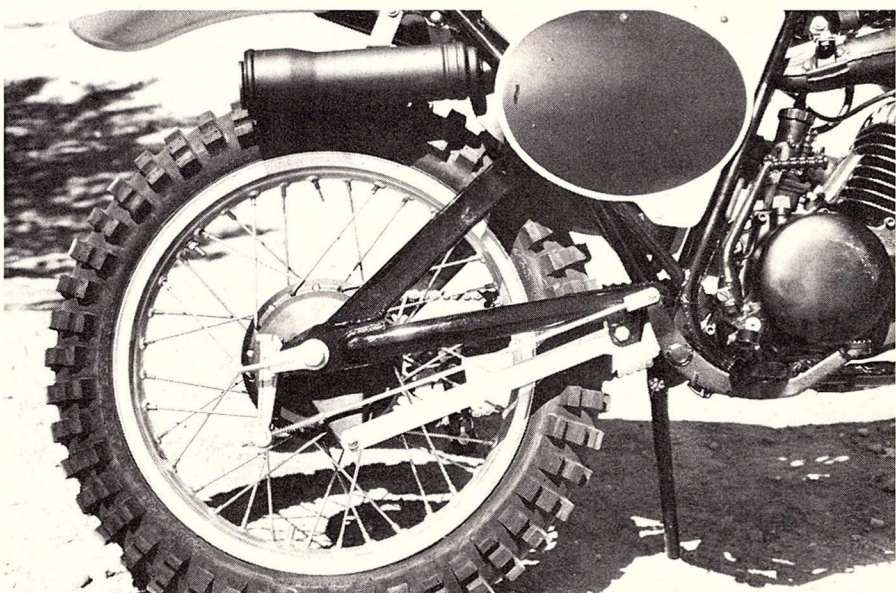
GUARANTEE Manufacturer defects only

INTENDED PURPOSE OF MIKE

(FROM MFG.) Motocross

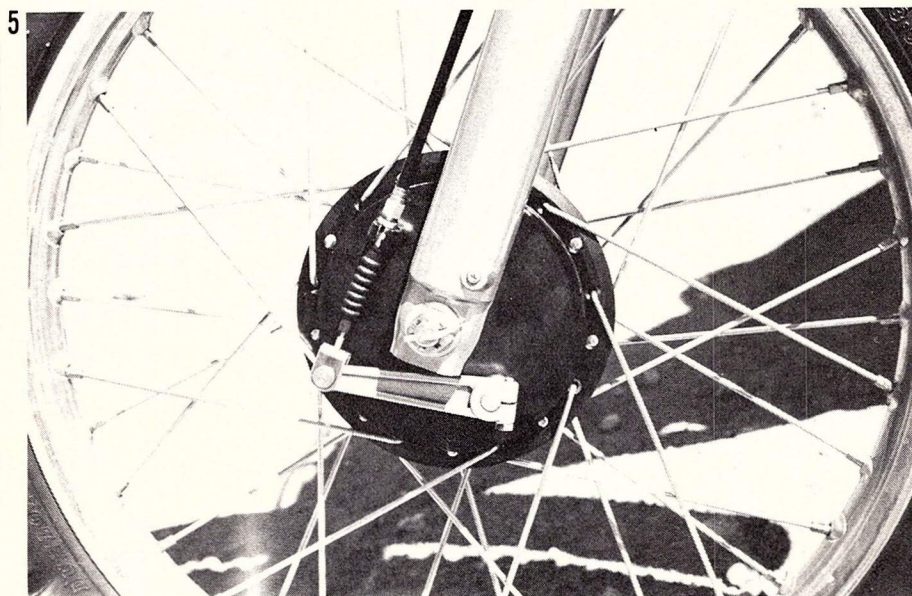
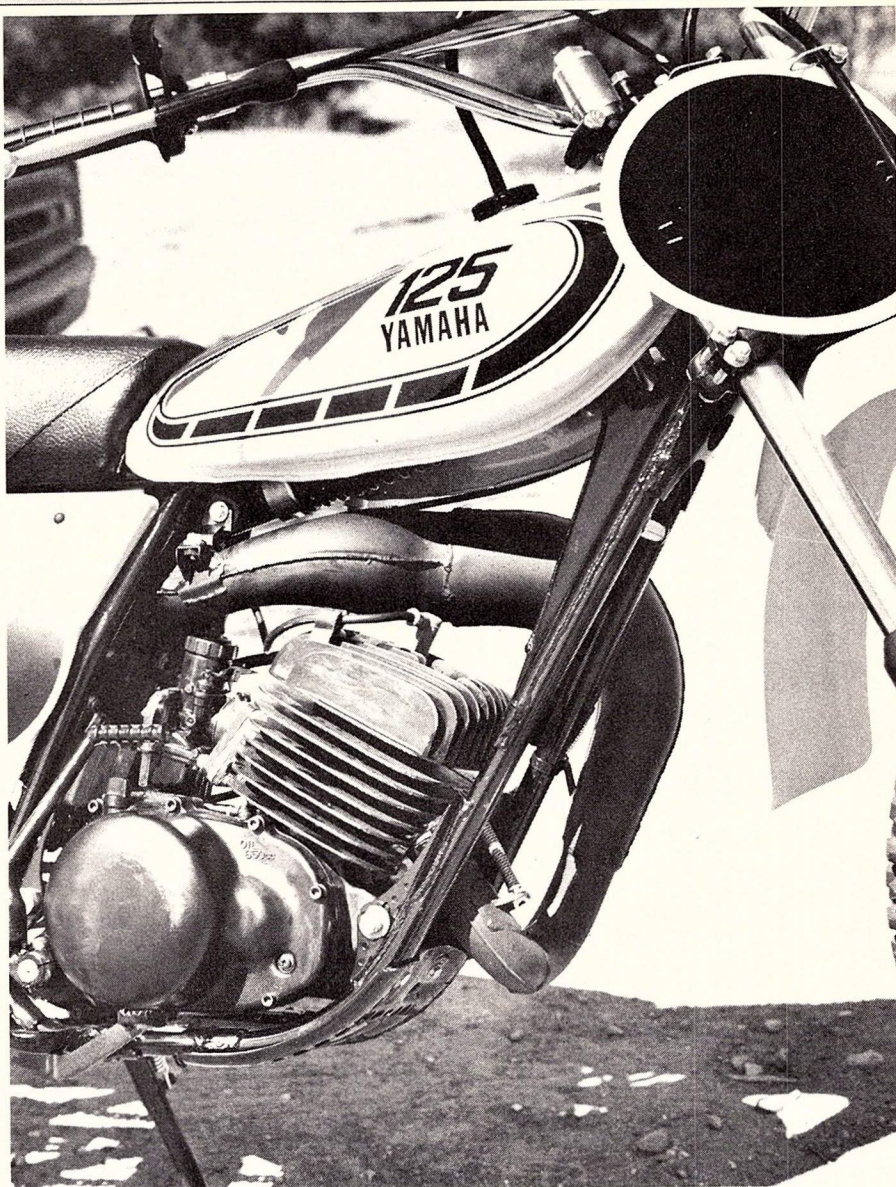
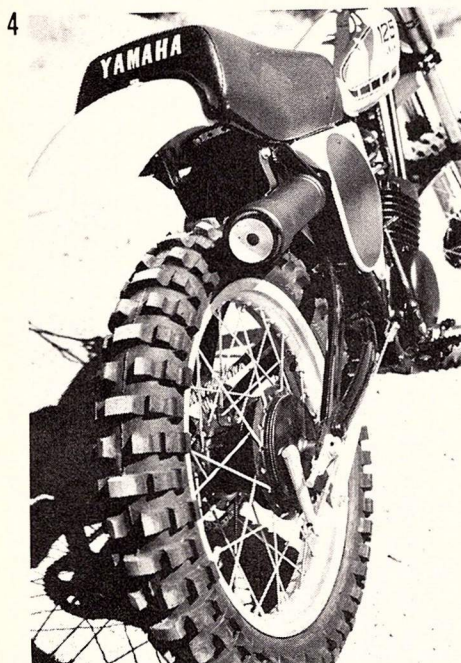
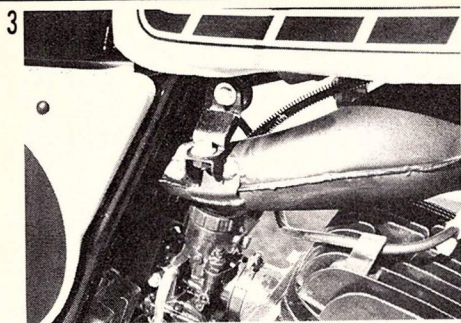
COUNTRY OF MANUFACTURE Japan

125 YZ



1 Monocross rear end was much softer this year. Many lighter riders complained of overly stiff action in last year's model.

2 Pipe on the YZ was slightly different dimensionally; it gave more top end and much less low end than the one on the MX.



3 Riders complained of snagging their leathers on the pipe bracket of the YZ. It has sharp edges and should be redesigned.

4 YZ had the superior Skidway muffler in place and the bike came with an additional "race" muffler. Translate that as a "loud" muffler.

5 Both bikes had the same front brake; strong, light and predictable. Lighter-bodied cable eliminated cable bind of past bikes.

than the DID's we can buy. They also cost a bunch more when you go to replace them. Honda models run about 40 bucks. The shiny ones go for about \$24.

If you have to tune the Monocross unit a bit, refer back to the August issue of *Modern Cycle*; there's a rebuild manual and tips for tuning. Ken Ross makes a spring for the damper that is far superior to the stocker. The spring is also guaranteed against sacking or breaking. He keeps on hand several more spring rates than do the Yamaha parts people.

If you happen to have an MX and want to make it as fast as the YZ, try the ignition first. It'll make the biggest difference.

There are many accessory heads for these bikes, and some are even worth the money. A head like the one DG Performance Specialties sells is a good unit. Most of the top-line riders who are campaigning the YZ have these heads on their machines. Before buying any accessory heads, check them for clearance under the pipe. If they need to be trimmed, then they are not worth buying. All they have going for them is the fact that they have more cooling area. If you have to trim this area down, then the area is reduced, maybe even to less than stock.

Yamaha recommends that you use their oil, Yamalube R. We ran it in the bikes and had good results.

K&N makes a replacement filter for the airbox that works well. It runs around \$18. If you like the Twin-Air models, they cost about \$16.

Since Yamaha came out with the YZ 125, they've done a lot of improving to the inside of the motor. All the pistons in the new bike are made from a far superior alloy than the last ones. They maintain their shape better under heat.

The first YZs had some problems with the connecting rods. Beginning with engine #008451, the rods have been beefed up. All Yamaha did was go back to the old MX rod. They never had any serious problems with those rods in over five years of production.

If your engine number is before this number, you'd better have the rod changed, or do it yourself. We know a few riders who have had their rods break and blow right through the front of the engine. On a few of these, Yamaha has stood for the parts, but don't count on it.

We also hear that the rear top motor-mount breaks right off the frame. Keep a close eye on this section of the frame for cracks. If you have the motor out of the chassis, you might box in this section and eliminate the potential problem.

Chuck Lanzaronne assisted with test riding. He thought the MX could get around a genuinely rough course as fast as the YZ.

If you want to make the YZ a little bit faster, all you have to do is clean up the ports and cut a little bit from the head. Be careful not to remove too much from the head, or the bike will run very hot, and half-way through the moto, it'll slow down. .050 ought to be fine.

Both bikes can be raced as is, out of crate, quite successfully, even with the stock rubber. Most riders will find the MX a far more versatile bike, simply because of the wider spread of power. However, they will have a shock problem to solve.

We felt that the MX turned as well as the YZ until the damping went away, perhaps even a bit sharper on tight, slow corners. Down bump hills, the MX felt more secure (again, until the shox faded), but the YZ could take bigger bumps with greater control.

Actually, Yamaha should have forgotten about the cantilever version and should have made the MX with the Monocross chassis. Still, all things considered, both bikes are strong enough in the engine to make up for most other deficiencies. And in the 125 class, horsepower is still the single most important feature.

Unfortunately,

Both machines are priced right, with the YZ going for \$990.50 and the MX for \$890.00. The YZ is by far the superior bargain, even taking the extra hundred bucks into consideration. You will spend at least a hundred bucks trying to get shocks on the MX to live for anything more than a twenty-minute moto.

SUMMARY

Not long ago, we told you that the reign of the Honda 125 Elsinore was over, and that it had to settle for a number three slot in the racing pecking order. Now, it's time to move the Elsie back one more position.

At the top of the heap resides the bright yellow Yamaha YZ. Right next to it, and only a small step down, is its ugly brother, the fastest refrigerator around, the white tanker Yamaha MX. Moved back to third place is the RM 125 Suzuki, still the best-handling bike of the first three. (But, not fast enough to do the job without spending lotta money.)

And, moved back to a very humble fourth spot, the 125 Honda Elsinore patiently awaits extinction, unless Honda gets off their dead ass and does something before the ink on this page dries.

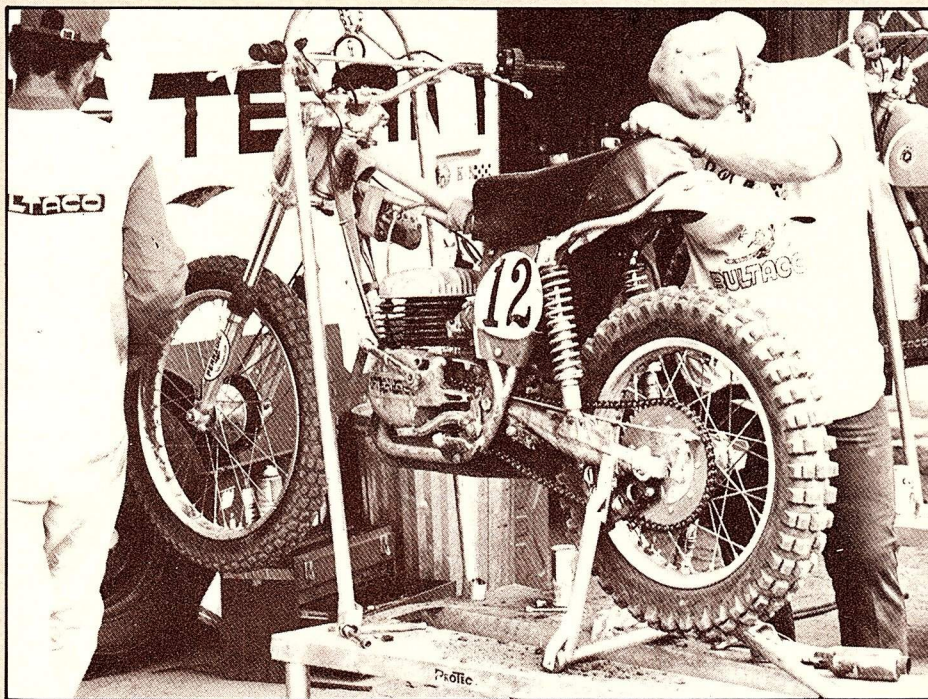
The mad scramble for horsepower continues in the 125 class at the expense of everything else. It's sad. It's unavoidable. And, like we said earlier, that's why it's the stupidest class you can ride. ●





ONE YEAR LATER

THE MARK CHARLES WORKSTAND



Hang-up

By Rick Sieman

We first saw the Mark Charles stand a few years back being used by the Bultaco team at Carlsbad. Shortly after, the stands appeared on the market. We got one about a year ago and have been using it more than any tool in our garage.

The stand is so versatile that it must be considered a tool rather than a luxury. At first, we figured it was just something handy to have around so we wouldn't have to bend down so much, but we've since come to realize that it's almost invaluable for the serious racer who does his own work.

We'd honestly estimate that it cuts our work time by at least a third. With the front, rear, or both wheels free at any time, spoke tightening, shock changing, and fork maintenance are a snap.

And the fact that you don't have to squat down all the time is also nice. We have the stand set up in the middle of our MC shop, with a folding chair on each side. This way, we can flit from side to side and still sit down for most of the work.

Another time-saver is that the base of the workstand is big enough to hold the tools you're using and most of the parts you might be taking off of the bike.

Example: When you do a ring job, you can just put all the nuts, bolts and internals in the depressed center section of the stand where they won't be knocked on the floor. Tools can be left on the stand's outer edge. By using the stand, we can do an upper end job on a Maico in thirty minutes, taking our time. There's also room for at least a few beers on the platform.

For a long time, we just left the stand in the garage and were happy as pigshit. Then we saw Bryar Holcomb at the track one day with just the front part of the stand. The main loop will hold a bike up comfortably for servic-

ing in the field, and the optional back roller lift gets the bike up in the air just like the complete stand will do back in the shop. The only thing you don't have is waist-level working conditions.

The entire unit is quite light and can be disassembled for transporting in a van. It takes up the length of a bike, but is only about five inches thick when folded.

No nuts or bolts are needed for assembly; the whole affair is a slip fit. Loading the bike is easy with the supplied ramp, and one man can do the job with no sweat. We added a piece of flat stock to the bottom of the loading ramp, though, for greater stability.

When you do roll a bike up the ramp, some care must be taken to hook the handlebars in their proper position. We've missed twice and killed some perfectly good throttle cables in the process.

The Charles stand can be purchased with or without the optional back section, but we think the setup works best complete. Now that we've used the stand for over a year, we're beginning to wonder how we got along without the thing in the first place. This is a damned good tool to have in your garage and an absolute must for a shop owner. We'd recommend that you buy one of these before you spend your money on a set of torches. You'll use it more often.

Where to get it and what it costs:

Andres Distributing Co.
3515 West Alameda
Burbank, CA 91505
(213) 845-9472

The whole works with the rear stand goes for \$129.
Front stand alone . . . \$29.95
Rear section alone . . . \$19.95

ELEVEN INCHES OF TRAVEL, FRONT AND REAR THE WILDEST MAICOS EVER BUILT!

Doc Holladay's Experiment

By Rick Sieman and Jim Mercier

How far is too far? Nobody knows yet, but the folks at Holladay Cycles are attempting to find out. What they've done here is mostly an experiment—and the most unusual one we've ever seen in the suspension department.

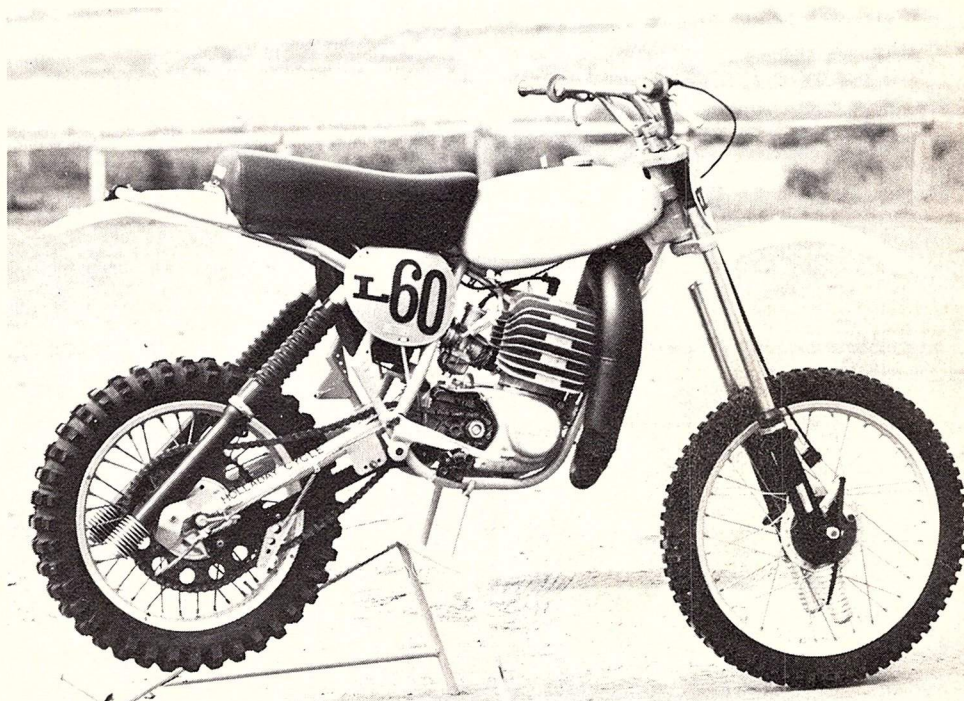
They brought two bikes out with them for us to ride; one was a 400 Maico with 11 inches of travel front and rear, while the other bike was a more conservative 400 Maico with only 9 inches of travel front and rear. Only!?

We heard about the bike from our old buddy, C. H. Wheat, who used to be the General Manager of Maico (now with S & W). The bike with 11 inches is being raced every weekend in local CMC motocross races and is winning in the intermediate division.

Rather than use everyone else's approach, Doc Holladay decided to go with a proven damping valve and fork assembly, and make it as long as needed.

Stock Maico forks were the basis of both ends with lengthened damping rods and custom-made fork tubes. The sliders, except for the extension, are standard.

Doc retained the stock triple clamps, and even though there is a certain amount of flex, no tank slappers have been experienced yet. With forks that

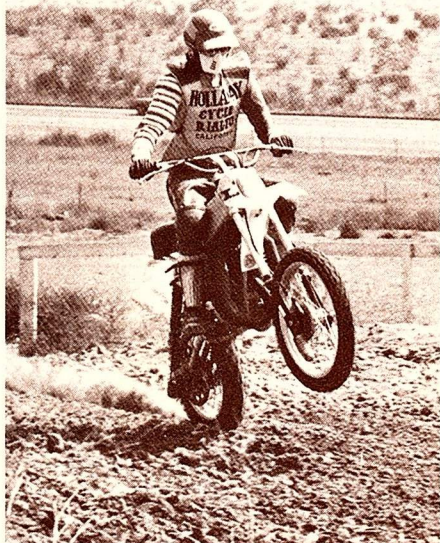


Here's the 11-inch bike in all its glory.

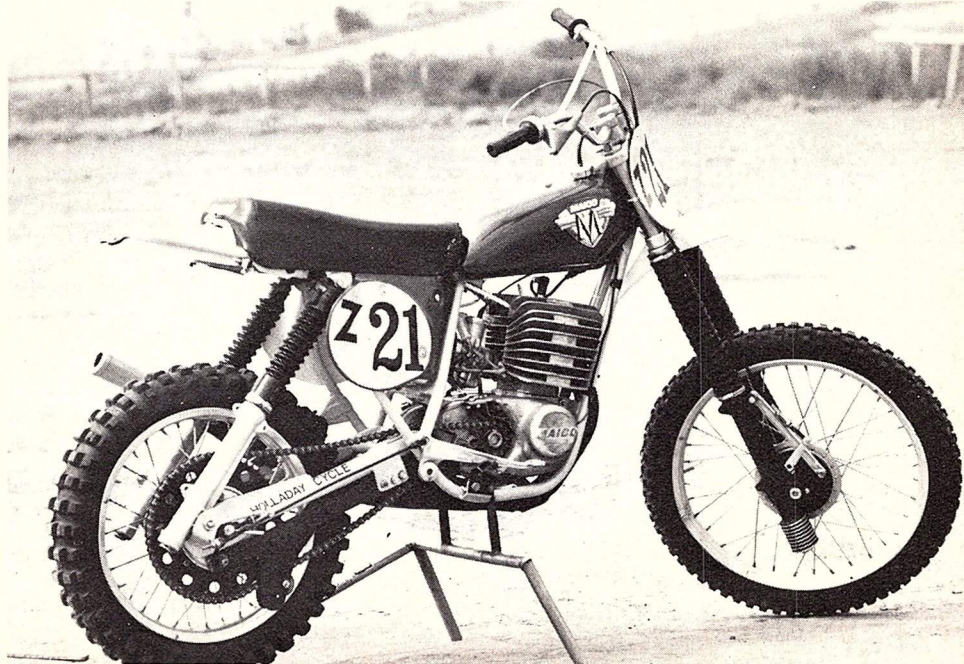
long, flex is unavoidable. They experimented with fork braces, but the extra weight wasn't worth the slight gain in rigidity.

The nine-inch bike is running a low pipe, and other than an occasional bash-

And here's the more conservative nine-inch machine.



On most of the small jumps, the rear end stayed on the ground and kept driving. You had to be careful to keep from looping out.





When Rory stands alongside the 11-inch bike, it looks almost normal ... however, when MC's Assistant Hunky and offspring stand there, the perspective changes.



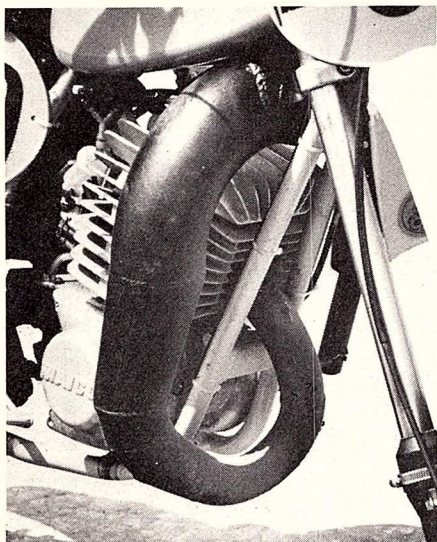
ing, it works out OK. Attempting to run any sort of a low pipe with the 11-inch bike would have resulted in instant destruction, so a Holladay Snail Pipe was installed. Even though the bike is a motocrosser, the pipe is quite radical. Much of Holladay's background has been in TT Scrambles and his riders tend to favor that kind of power.

While riding the bike, we kept bumping our right knee into the outer curve of the "snail." Doc told us that the production pipe will be tucked in better. No price has been established yet, but everything should be sorted out shortly.

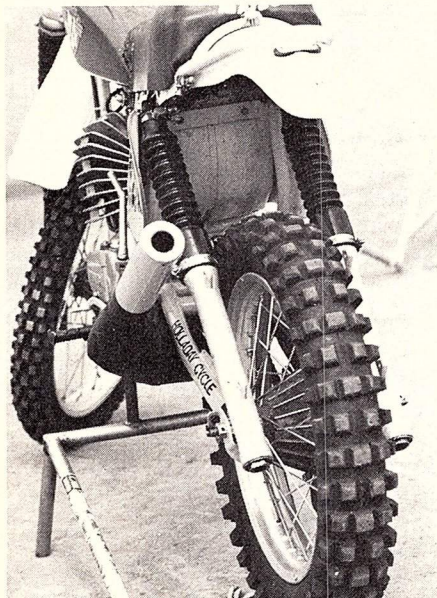
This pipe should actually be a good thing for a stock Maico, because even the stockers have a bottoming problem. It is necessary to run the old-style peanut tank for pipe clearance when using the "snail," however.

No doubt you're wondering what it's like to ride these machines. We rode the nine-incher first, just to get the feel.

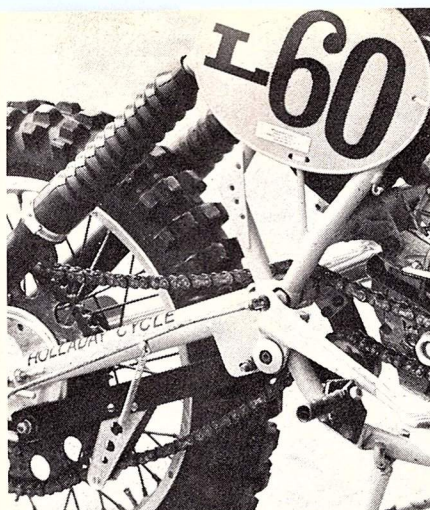
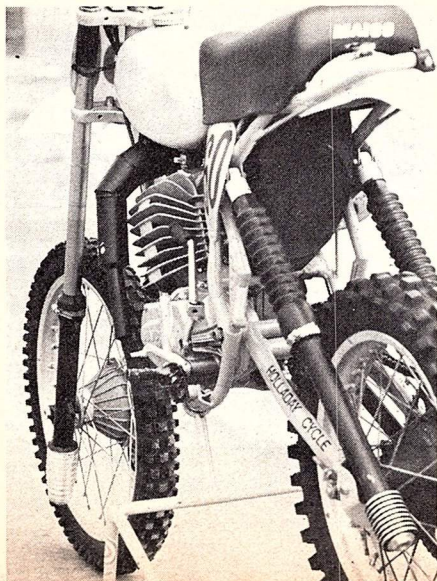
Center section of snail pipe is formed from a U-bend off a diesel exhaust system.



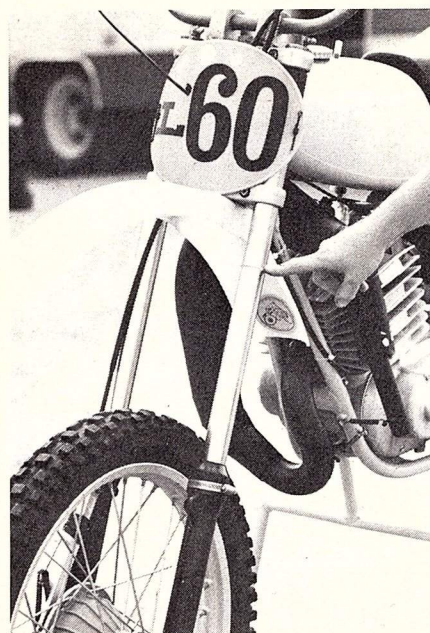
Rear end of the nine-inch bike used stock sliders with short internal extension on the damper rods.



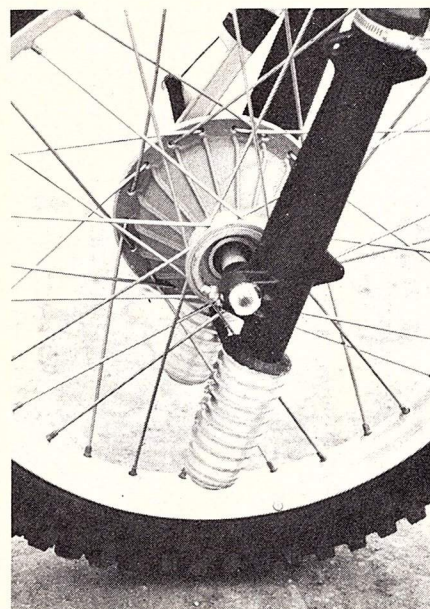
Even with the long travel, the rear end of the 11-inch bike didn't flex. The swingarm adds much to the stability.



Stainless-steel chain guide was on swingarm pivot. The chain rode right on the metal and made its own tracks.



How's 'zat for travel? Eleven full inches, shown by the pointy finger.



Custom-made accumulators were on bottom of long bike. Gouge in fins is from a Husky that hit the bike.



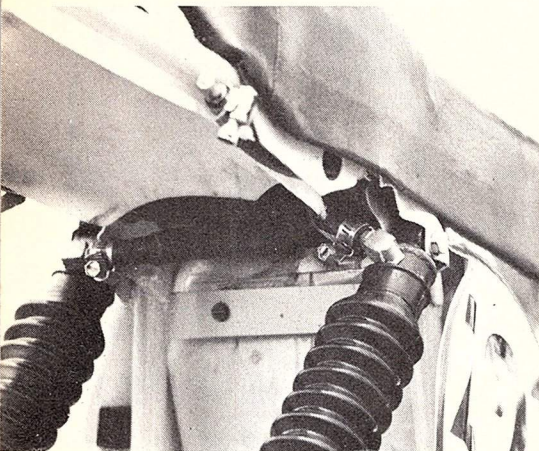
Rory Holladay races the 11-inch Maico every weekend and is a winning Intermediate with it.

Even with the smaller (?) bike, we had a hard time swinging a leg over the saddle. But once we straddled the bike, it settled down enough for us to tippy-toe the ground. Once we got moving, both feet got on the pegs—and stayed there.

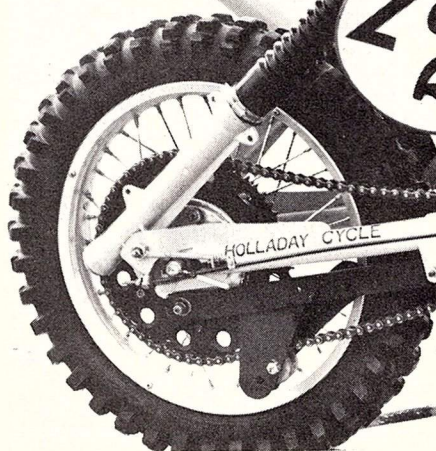
As might be expected, the ride was plush. Perhaps too plush. We took it back, and Doc pumped some more air into the forks, both front and rear. That's another nice thing about the setup: no springs. Each fork leg has an air cap installed, and you can change the effective spring rate by playing with the air pressure. Additional changes can be had by varying the volume of oil *and* changing the air pressure.

Back on the course, we were just starting to get used to the bike when we tossed the chain. Unfortunately, we were plagued with the chain coming off

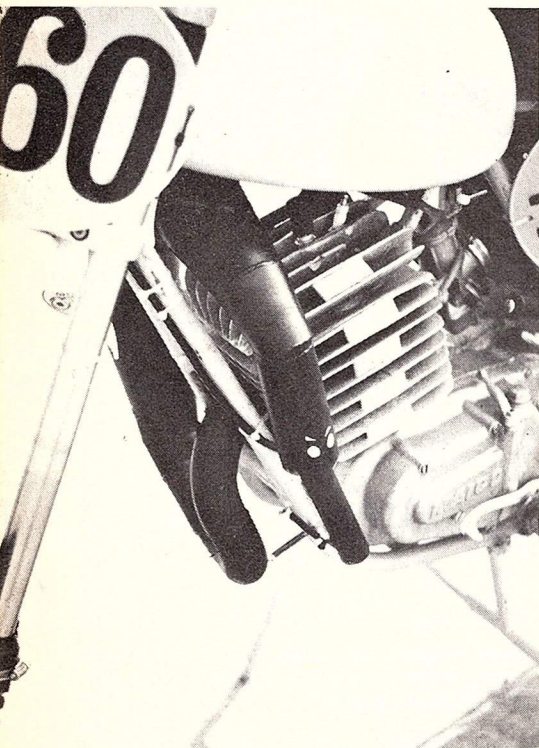
Nine-inch bike had balanced air caps, so the pressure could be introduced at one central valve.



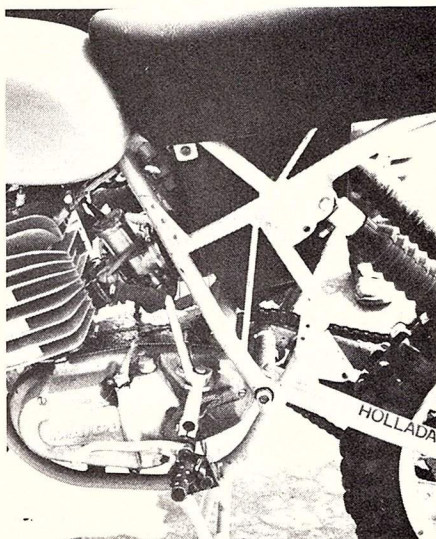
Snail pipe is available from Holladay Cycles and is a nice item for standard Maicos.



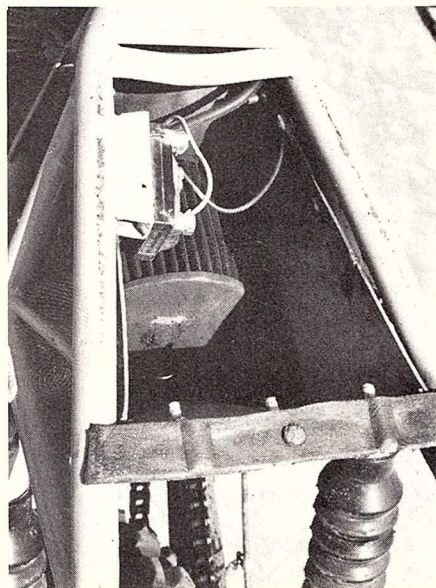
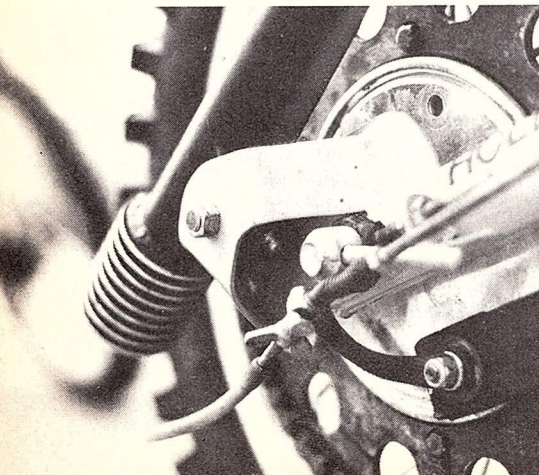
Steel sprockets had to be used on both bikes, because aluminum ones wore out way too fast.



Special steel protective guide was necessary to prevent case damage when the chain occasionally flew off.



Small tubes are "safety" tubes. They're wafer-thin, and when they break, Doc Holladay can quickly isolate a potential frame breakage spot.



It was necessary to run the coil in the airbox because of limited room under the peanut tank.

all day on the nine-inch bike.

While they tried to locate the problem, we rode the eleven-incher. Strangely, this one didn't give us any hassle with chains, even though the chain was run quite loosely. A rigid guide is located up near the swingarm pivot.

Riding the tall bike was a blowmind; needless to say, there were no bumps. None at all. Even square bumps couldn't be felt. The only things that bothered us were the sense of detachment when moving and the massive amount of front end dive when braking hard. Especially on steep downhills, where the rider felt like he was going to go over the bars.

In the corners, the bike turned even sharper than a stock Maico, if you can believe that. When the power was applied, the entire combination of bike and machine tended to straighten up alarmingly quick.

Some of our test riders felt that the chassis wallowed too much to ever let them ride the bike with confidence. Mercier, in particular, was scared to death in the corners.

At high speeds in the bumpy stuff, the machine tracks very straight; but still, the rider has a strange feeling of not being on the bike. If nothing else, it takes getting used to.

Doc Holladay told us that he was still in the sorting-out stage and that he hadn't settled on the best combination yet. One thing learned from the operation, though, is how to make stock Maico forks any length you want, safely. Call them for quotes on special long-travel Maicos, or for one of their extending kits. If nothing else, just stop by and take a look at the bikes. It'll be worth the trip, we assure you.

Where to get it:

HOLLADAY CYCLES
445 NORTH LILAC
RIALTO, CA
(714) 874-4422

Doc is a Maico specialist; we can vouch for that. By the way, the eleven-inch bike would cost around \$700 to duplicate.



RACING THE RM -370 SUZUKI



Once the new wears off, here's what you got.

By the Editors of MODERN CYCLE

The new RM Suzukis are very important bikes. So important in fact, that we have been conducting a test somewhat out of the ordinary: a long-range racing test.

In short, what we did was to race the 370 Suzook as often as we could for almost two months. It was raced in at least two classes every Sunday and ridden during the week in testing and photo sessions. As close as we can calculate, the RM 370 has over 35 hours of actual riding time on the engine.

Thirty-five hours plus! That's one hell of a lot of riding. Even more amazing is the fact that two of these hours were put on the machine by none other than Rex Staten, King of the Bike-Breakers.

All we did in the way of maintenance was the absolute minimum. After each and every moto, the chain was scrubbed with a wire brush to remove all the surface dirt, then lubed heavily and adjusted when needed. We only had to adjust the chain three times, which surprised us a bit.

Then we adjusted the spokes carefully, having heard horrendous stories about broken hubs and such. We nearly always found a few spokes that needed attention and loving care.

We received more than a few dire warnings about keeping a close eye-ball on the rear sprocket bolts, but they seemed to be very content staying nice and tight. While at the track one Sunday, we saw another 370 with a shattered rear hub. The owner said that he'd been tightening the sprocket bolts like a madman to play it safe. Close inspection revealed that he'd been overtightening and had bent the aluminum flanges inward and had hairline-cracked the flanges.

After the chain and wheel maintenance, we applied our trusty wrenches to all motor mount bolts and the head and barrel fasteners. We nearly always found the forward bottom motor mount bolt slightly loose, but the front ones needed tightening only once. The rear motor mount bolt is very hard to get to and takes a bit of maneuvering with a short 14mm socket.

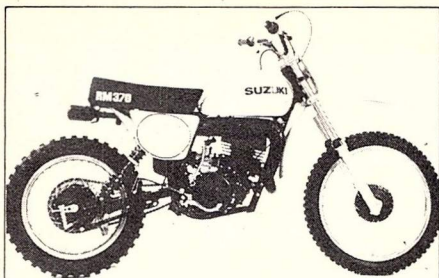
Once, we detected heavy vibration nearing the end of a moto and a slightly loose swingarm pivot bolt turned out to be the cause. We had to tighten this only twice for the duration of the test.

After the basic tightening, we always put a wrench on every nut and bolt we could reach (time permitting), just to play it safe. We found that the pinch bolts on the triple clamps needed periodic tightening and the steering head nut worked loose once.

Most of the critical components are cotter-pinned in place, like the axle nuts and the brake stay arms. This proved to be beneficial, because the forward nut on the rear brake stay arm backed off to the cotter pin.

Brake adjustment proved to be awkward. Instead of the usual knurled nut on the end of the cable, Suzuki has gone with an adjuster at the backing plate stay slot. It takes two wrenches to do the job, and very little room is available.

Other than cleaning the filter, this is all we did to the bike. We never



SUZUKI RM 370

DIMENSIONS AND WEIGHT

OVERALL LENGTH 2140mm (84.3 in.)
 OVERALL WIDTH 935mm (36.8 in.)
 OVERALL HEIGHT 1200mm (47.2 in.)
 WHEELBASE 1440mm (56.7 in.)
 GROUND CLEARANCE 265mm (10.4 in.)
 DRY WEIGHT 102kg (225 bs.)
PERFORMANCE
 MAXIMUM HORSEPOWER 42 at 7000 rpm
 MAXIMUM TORQUE 466kg/m (33.7 lb./ft.) at 6000 rpm

ENGINE

TYPE Two-stroke, air-cooled, gas engine
 INTAKE SYSTEM Piston and reed valve
 NUMBER OF CYLINDERS 1
 BORE 77mm (3.03 in.)
 STROKE 80mm (3.15 in.)
 PISTON DISPLACEMENT 372cc (22.7 in.³)
 CORRECTED COMPRESSION RATIO 6.9:1
 CARBURETOR VM VM36
 MJ #340
 PJ #50
 NJ Q-O
 JN 6FJ6-3
 CA 1.5
 PAS 1½ turn out
 FL 13.9mm

AIR CLEANER Wet polyurethane filter

STARTER SYSTEM Kick

LUBRICATION Fuel and oil premix 20:1

TRANSMISSION SYSTEM

CLUTCH Wet, multi-plate type

TRANSMISSION 5-speed constant mesh

GEAR SHIFT PATTERN 1 down, 4 up

PRIMARY REDUCTION 2.384 (62/26)

FINAL REDUCTION 3.846 (50/13)

GEAR RATIOS:

LOW 2.071 (29/14)

2nd 1.625 (26/16)

3rd 1.263 (24/19)

4th 1.000 (21/21)

TOP 0.869 (20/23)

DRIVE CHAIN: SIZE #520

NUMBER OF LINKS 108 links

FRONT SUSPENSION Telescopic forks with hydraulic damper

TRAVEL 220mm (8.66 in.)

REAR SUSPENSION Swingarm with gas/oil lay-down shock absorbers.

Springs 3-way adjustable

STEERING ANGLE 45° right and left

CASTER 60°

TRAIL 126mm (5.0 in.)

TURNING RADIUS 2.3m (7.5 ft.)

FRONT BRAKE Internal expanding-mechanical

DIAMETER 130mm O Fr

WIDTH 28mm

REAR BRAKE Internal expanding-mechanical

DIAMETER 150mm O Rr

WIDTH 28mm

FRONT TIRE SIZE 3.00x21 4 PR.

REAR TIRE SIZE 4.60x18 6 PR.

ELECTRICAL

IGNITION TYPE PEI

IGNITION TIMING 23° BTDC at 6000 rpm

SPARK PLUG NGK B-9EV

CAPACITIES

FUEL TANK 8 liters (2.1 gal./1.8 Imp. gal.)

FRONT FORK 245cc (8.3/8.6 U.S. Imp. oz.)

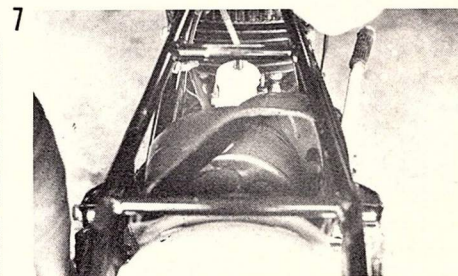
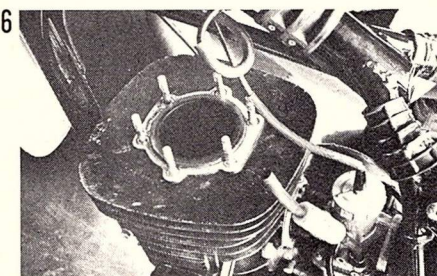
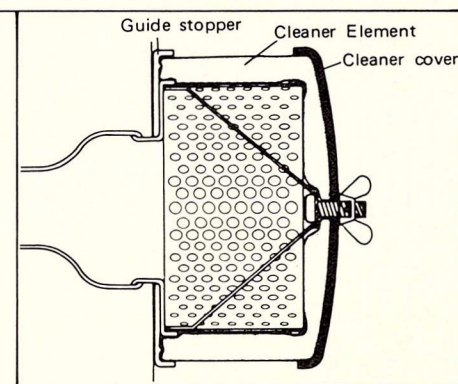
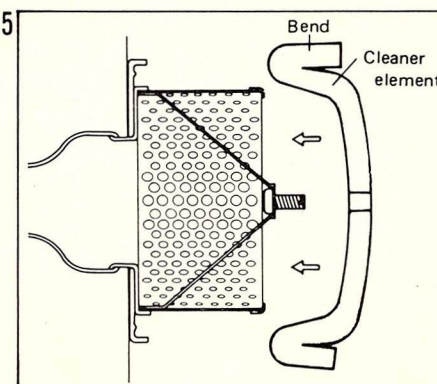
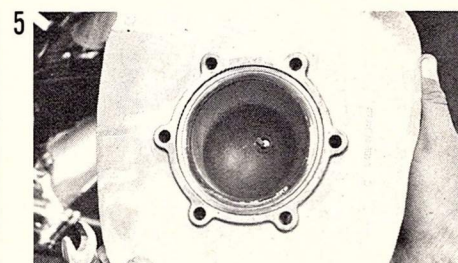
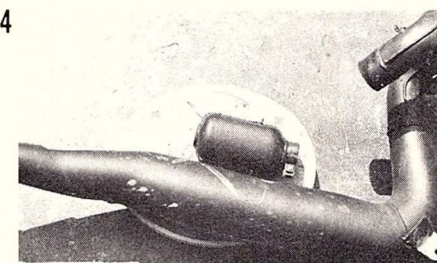
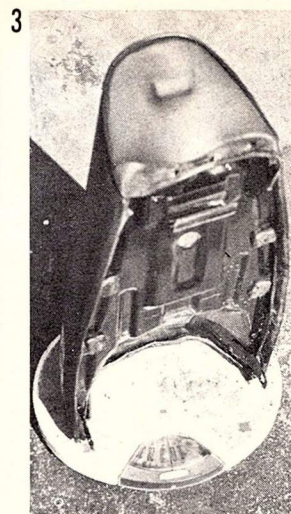
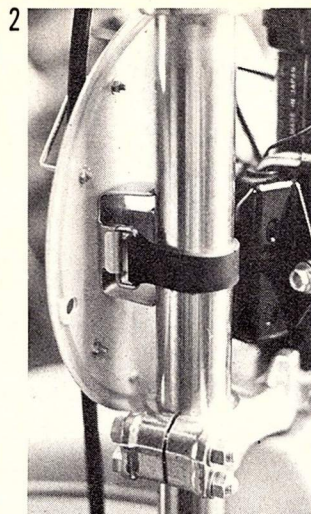
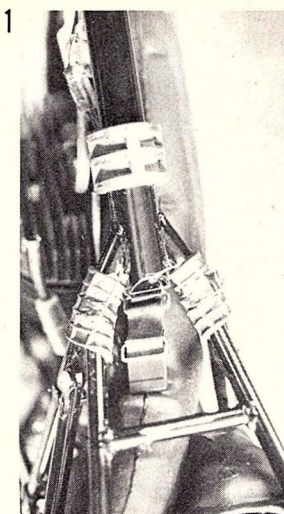
TRANSMISSION OIL Refill after draining:

1000cc (2.11/1.76 U.S. Imp. pt.)

Refilling after rebuilding: 1100 cc

(2.32/1.90 U.S. Imp. pt.)

RM-370



1 Rubber pads were riveted into the frame rails to prevent the aluminum tank from grinding against metal.

2 A special number plate mounting method is necessary because the black box is up front away from engine heat and vibration.

3 Even though seat has a steel base, it was light. Fuzzy bathroom scales showed 3½ pounds. Works bikes aluminum or plastic bases can save maybe a pound or two.

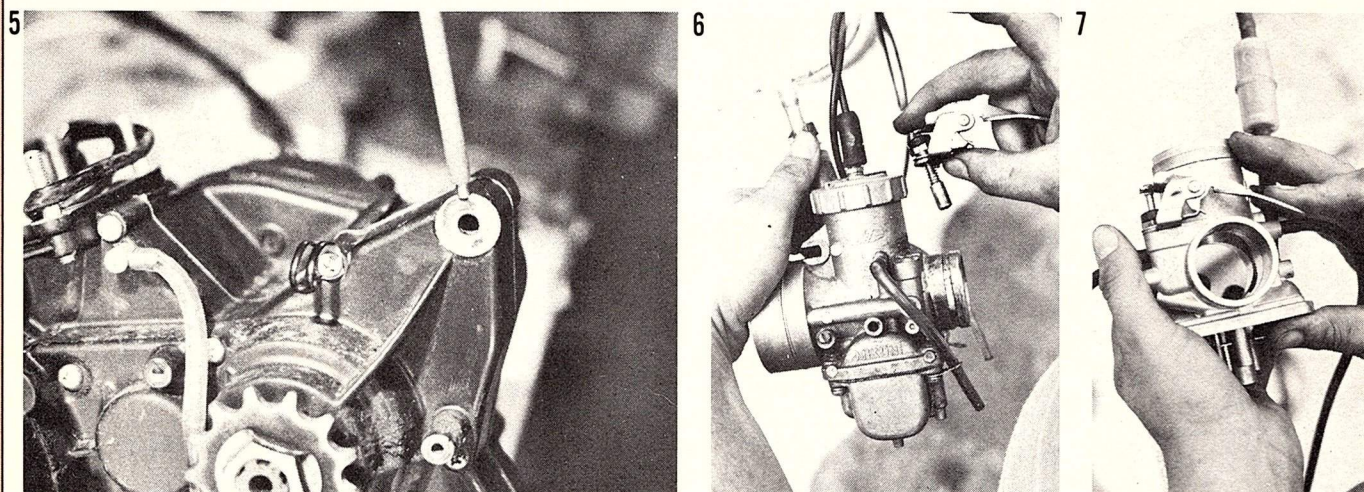
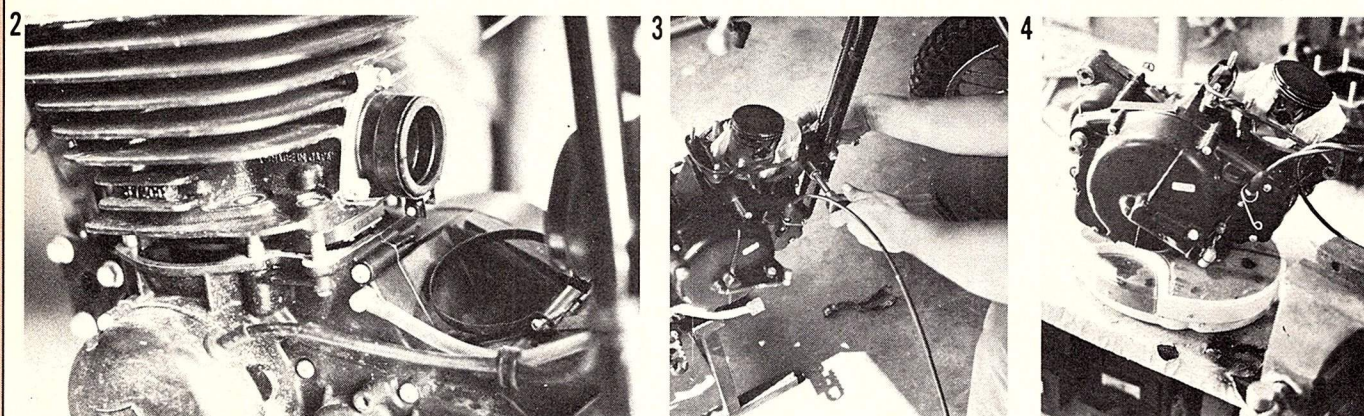
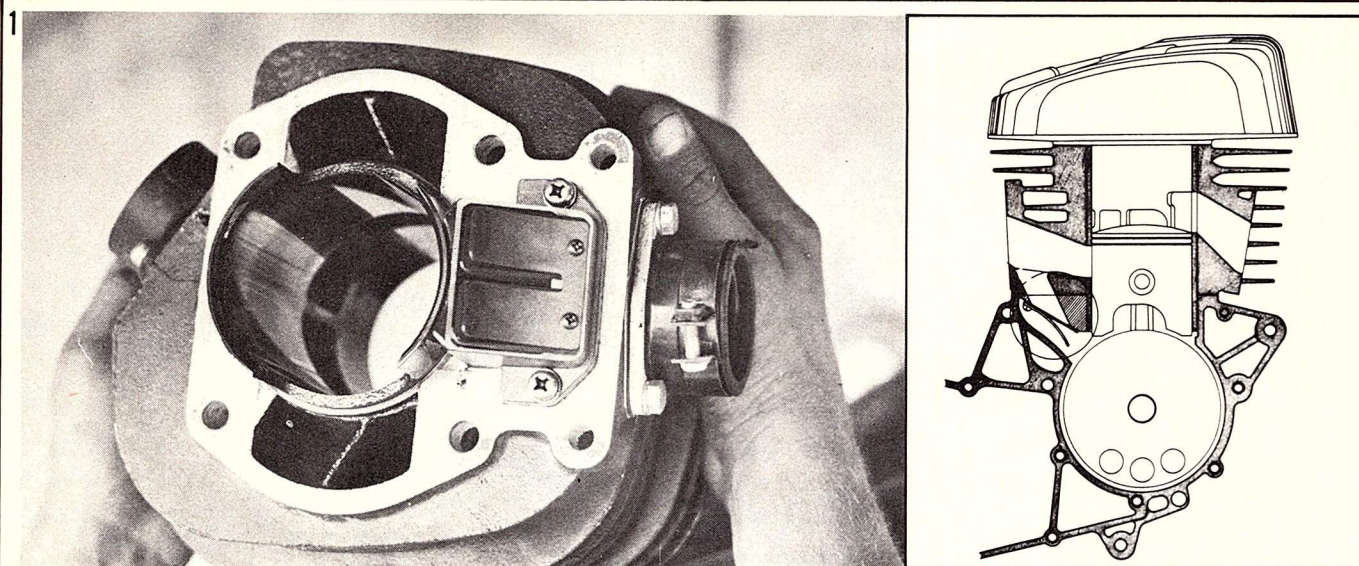
4 Pipe, complete with muffler and all springs, weighed in at 5¾ pounds.

5 Getting to the air cleaner is a bear. Fortunately, the box is very waterproof. The only way to get the filter in is to bend it around and manipulate it in place. Even then, much care must be taken to get the foam seated correctly. If a small section of the foam is out of the groove, you can kiss the motor good-bye.

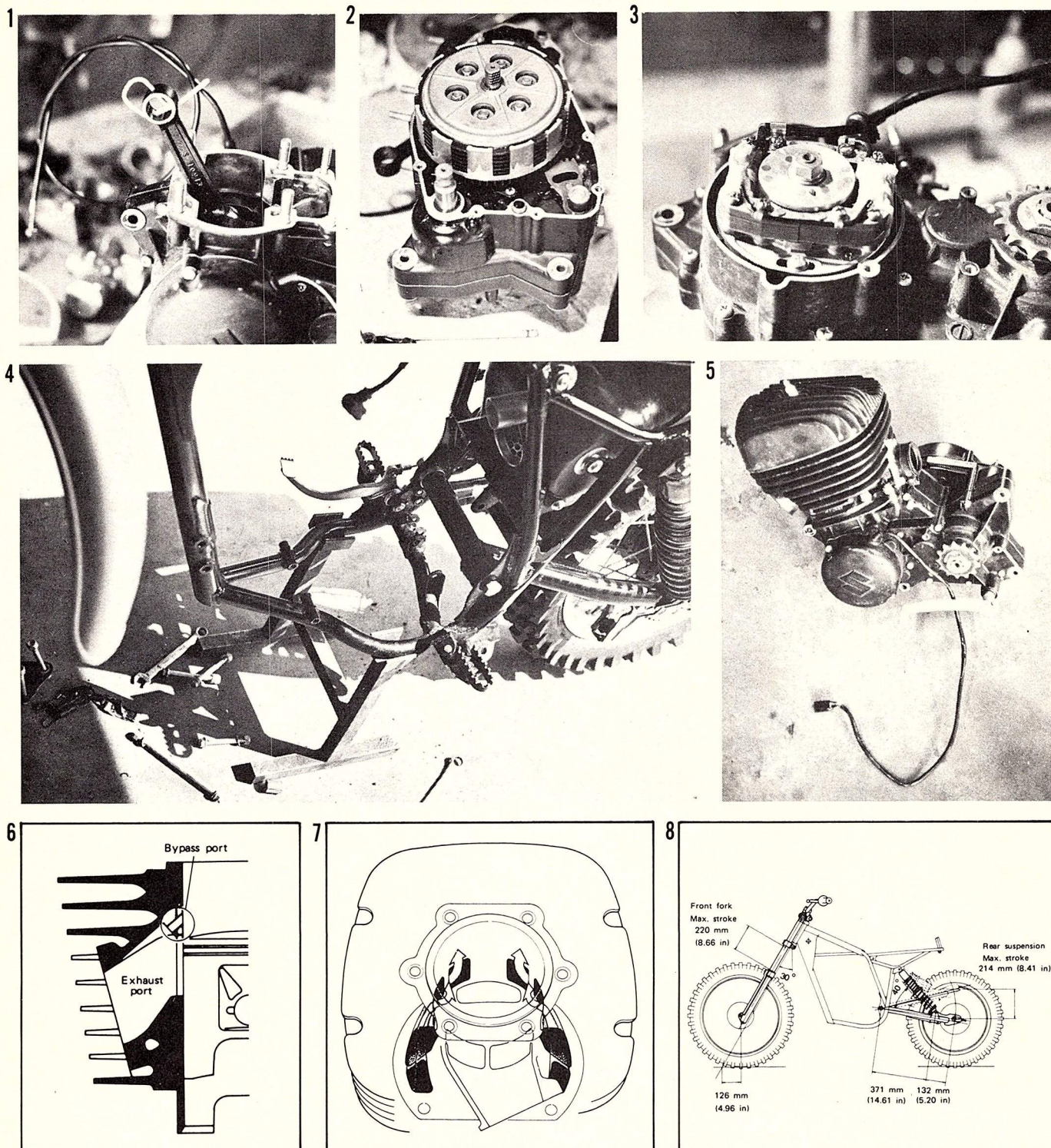
6 Head could be removed without taking the engine out or disconnecting any electrics.

7 Here's how clean the head looked after over a month of running—and bean oil, at that!

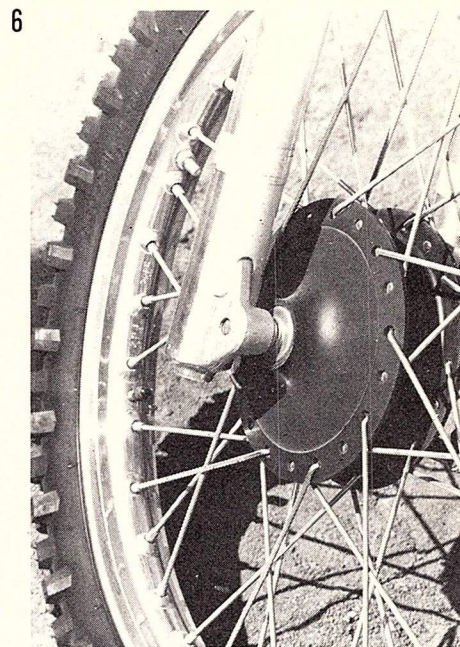
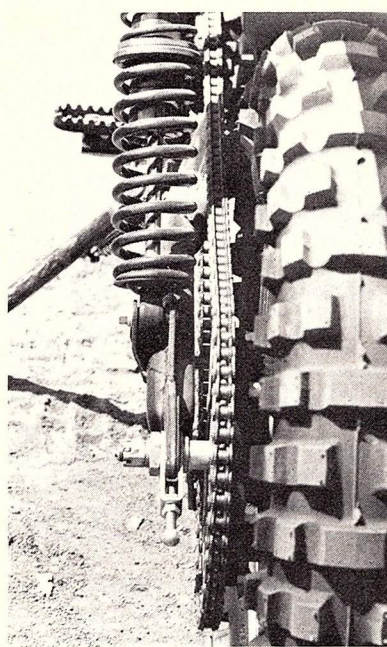
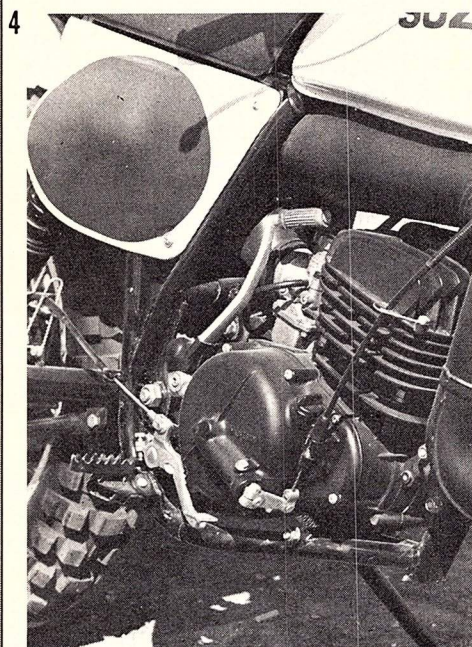
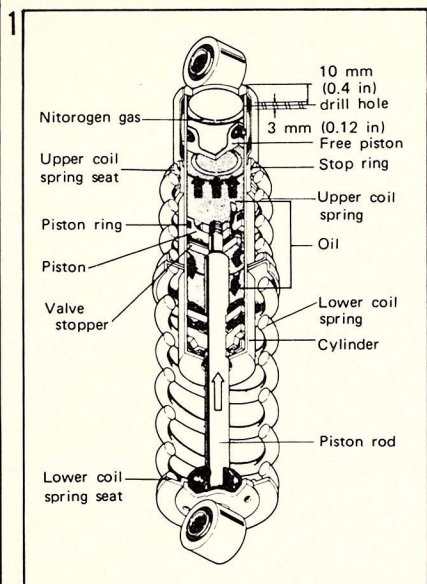




- 1 Unique use of a case-mounted reed allows the RM 370 tremendous flexibility. The reeds don't open up until around 4500 rpm; then they dump directly onto the rod for maximum lubrication. The mild intake porting lets the engine lug down low like a trials bike.
- 2 Six base studs hold the barrel in place. Removal was simple and straightforward.
- 3 Getting the motor out of the chassis was very easy, largely because of removable motor mount plates at front.
- 4 Engine, without top end, weighed in at slightly over 50 pounds. It's a very compact and narrow unit and not much bigger than the RM 125.
- 5 Just like the CZ, steel inserts in aluminum cases cut down on hole elongation and case wear. Also, they help reduce vibration.
- 6 While we had the engine apart, we removed the pain-in-the-ass pull-pin choke. Changing was simple; just take the old unit out and install the good lever-type from a similar sized Mikuni.
- 7 Now, instead of groping for a pin, all we had to do was flip the lever.







1 Kayaba nitrogen gas shocks do a decent job until they get hot and go away. Fifteen minutes under a hard rider will waste them completely. Split springs are very strange indeed. Lighter spring is about 76 pounds per square inch, while the heavier springs are rated at 233 psi. When the rebound damping goes away, the heavy second spring will kick the back end up radically if a bump is hit with the power off.

2 Here's where our pipe bracket broke. Yours will too. Better make a new one before you go riding.

3 The 370 won every time out on the motocross track.

4 Small things were nicely thought out: clutch adjustment range was wide, kickstarter was well tucked-in, and brake location and actuation were perfect.

5 Plenty of chain clearance kept wide-bodied Kayaba shocks from getting sawed in half. Chain adjustment could be accomplished without taking off axle nut.

6 Front axle screwed right into lower fork slider, making a very rigid and safe attachment method. Front brake was stunning.

timed it, never removed the float bowl of the carb for cleaning (once we installed an AC gas filter), and never went inside the engine.

Throughout our test, the 370 had a slight detonation at partial throttle that irritated us. We raised the needle twice in an effort to cure this, but we never got entirely rid of the slight dingle. The Suzuki folks told us that even Roger's bike had this "dingle" present and that it was no problem. We felt that this could have been cured by rejetting, but rode the duration of the test "as was." More on the jetting later.

At the factory's insistence, we ran bean oil (Castrol R) at 20:1, even though we personally detest bean oil. After we ran out of the Castrol R, we switched to Blendzall and ran it at 40:1. No seizures were experienced, and the plug stayed surprisingly clean. We changed to a Champion N2G after twenty hours of running, even though the original NGK B9EV was still performing well.

In our opinion, the bike ran stronger in the midrange with the leaner Blendzall mixture. We couldn't detect any difference at low end and upper rpm with the 20:1 Castrol. Additionally, the "dingle" appeared to lessen with the leaner mixture. One thing we did do in the later stages of racing was use an octane booster (Klotz) in liberal quantities.

According to Mike Jackson (formerly of AJS), when 100 octane gasoline is mixed with bean oil at 20:1, the effective octane rating drops to between 74 and 76, causing a detonation in most high-performance motors that cannot be "jetted out." The only positive way to get rid of the low-octane detonation is to move the timing closer to top dead center. This tends to "soften" performance a bit, so we never did it.

The results of our racing torture schedule were impressive: we won every time in various classes, from Junior to Old-Timers. The bike never fouled a plug, and the only breakage was a rear pipe mount and three lost exhaust springs.

Changes to the stock bike were minimal: bars, grips and tires. Even though the standard tires did a fairly good job, we put the superb Metzlers front and rear; a 3.00 x 21 up front and a 110 x 90 (equivalent to 4.75 x 18) on the rear. We found that eight or nine pounds in the front and 10 or 11 in the rear worked fine for most conditions.

One trip to the desert (a play day) we jacked the pressure up to 13 in the front and 14 in the rear, to protect the rims from the ever-present rocks. Our suspension felt slightly stiffer with the increased pressures, but the bike worked well. By the way, we used the stock tires in the desert, not wanting to wear

out the expensive Metzlers while just play-riding.

After the race-testing, we tore the 370 completely down to check out wear and possible internal sufferings. Here's what we found: The internals were amazingly clean for having run bean oil. Some of the credit for this must go to the Klotz octane booster, which contains a high percentage of ether. The cross-hatch marks on the cylinder liner were still present and the rings, wrist pin and piston were all still in good shape. Some carbon buildup was in the exhaust port, and a fine layer was on the dome of the piston. This was all cleaned off before reassembly.

During teardown, we also took the carb apart and checked the float level, cleaned out all passages carefully, and rejetted to specs supplied to us by Norm from Rancho Suzuki. We were very eager to get rid of that slight detonation, even if it didn't do any discernible damage to the motor.

The pilot jet was left at the supplied 55, but we changed the needle jet from a 159-Q0 to a 159-Q5. The needle was put in the second groove from the top. Additionally, we dropped the main jet from a 340 to 330. Norm says that he's running his at 320, but we were hesitant to go that lean, as the motor still revved out cleanly with the 330. Still, motors will vary.

During our teardown the subsequent reassembly, we found that the Suzuki was a delight to work on, with a few exceptions. Servicing the air filter was a pure bummer, as the unit has to be pulled out from the top and is very difficult to reinstall properly. However, the airbox itself is very water-resistant and does shield the filter nicely.

Big healthy bolts are present on the motor, and lock nuts are used throughout. Taking the brake pedal off is a demeaning task, requiring that the mechanic get down on hands and knees and grope around to remove the circlip on the inside of the frame rail. It isn't too difficult to reach if the engine is out, but taking off the right side primary cover demands that the lever be removed.

Those rotten little phillips screws are all over the Suzuki and demand that an impact driver be used. Allens would be an improvement.

We wanted to race the machine in standard trim for the duration, and other than the bars, grips and tires, we did so. The only major shortcoming of the 370 seems to be the shocks. While the Kayabas worked well for 15 minutes or so, they would eventually fade and then the big RM became a handful.

Even when fresh, they have too much compression damping for our tastes. As long as the power is on, the rear end would work fine, but when the rider was forced to hit a sharp bump with the

power off, the heavy compression damping would kick the rear end up sharply. When the shocks got hot, the situation was aggravated.

Personally, we like a rear shock with minimal compression damping and lots of rebound damping. We plan to race the RM 370 some more, but we'll be using a set of the new Fox Air Shox, which are infinitely adjustable.

Changing to another shock is no simple thing, as the Suzuki shocks are 15½ inches long, and there just aren't many shocks around that come in that length. About the only ones that we can think of are the S&Ws, the Works Performance shocks, and the Fox items. In fact, we may try all three and report the results to you at a later date.

What may be an alternative solution to the shock problem is in the works. Suzuki has tentative plans to market the remote-reservoir Kayabas, just like the factory bikes are using. These units *do* hold up for a long race. We hear the price *might* be in the \$120 range, but this is still speculation. If the factory doesn't market these shocks, they're missing the boat on a real gravy accessory item to add to their line. One additional feature is that the remote Kayabas are bolt-on items, requiring a few hose clamps up front.

The first time we raced the bike, all starts were made in low gear, just to play it safe. This proved to be the cold setup, as the Suzuki never got into the first turn in an impressive position.



Still, the explosive power made it easy to come out of the first turn strongly and gain back some of the lost ground.

During the next race day, second gear starts were used, enabling the RM 370 to get three holeshots out of four starts.

An additional benefit was that the shift from first to second was eliminated. While by no means as awkward to negotiate as a Husky or a Bul, the 370 demanded that the clutch be used when going from first to second while under full power. The rest of the gear changes were made easily and as fast as the rider could nudge his toe. No clutch was needed as long as the power was backed off for a particle of a second.

After the bike was raced in motocross for six weekends, we took it out to the desert and entered it in a European scrambles. The course was 11 miles long and had three loops.

Unfortunately, we couldn't get a larger countershaft sprocket for the bike, as none were available yet. Stock gearing limited the potential of the 370 and made it a handful after the rider got tired.

After the first loop, the shocks were gone and handling deteriorated badly. The loss of compression damping and the heavy secondary spring rate (233 inch pounds) found the ass end of the bike rebounding heavily after impact with the ground. Three crashes were part of the race day, but the 370 still finished with a respectable third overall. Strangely, the bike that won was an RM 250 Suzuki with a homemade 15-tooth countershaft sprocket. C/S sprockets from other Suzukis (TM 250 and 185 Street Twin) can be used if they're thinned down on a lathe. This thinning removes the lip that's machined into the sprocket, so a washer must be placed behind the custom sprocket to get needed clearance.

Because we were forced to run the stock MX gearing, the 370 ran at nearly full rpm in fourth and fifth gears for the duration of the event. While the bike didn't break from this abuse, the rider nearly did. It turned his hands and forearms into Silly Putty. Especially across a long lake bed and a 1½-mile-long sandwash. The rider had to take both in fifth gear at peak revs to keep from being passed.

With a 15-tooth C/S sprocket, the rider would have been able to utilize the fat part of the powerband and consequently would have been able to keep the engine vibration down.

We never noticed that the 370 had any vibration to speak of—until we were forced to maintain these high revs for extended periods of time. This vibration is not noticed on an MX track, where most of the riding is on/off.

We think the 370 will be an excel-



S. Hunky raced it in Open and Old-Timers Class. Yeh, he's that old.

lent desert bike once some long-living shocks can be found. The high pipe never got in the way, and none of the riders ever complained about leg burns during the testing. A skidplate, change of tires and a bigger tank will be all the rider needs, aside from gearing to suit the course.

Because of the versatility of the 370, the 400 Yamaha Monoshocker will finally get a new challenger in the cross-country events. Right now, the only advantage the Yamaha has to offer over the 370 is a superior rear end. However, the 370 works fine until the shocks go away and does handle better than the Yamaha, both in a straight line and in corners.

One other important thing that the Suzuki has that no Yamaha has, is a decent set of forks. When we first rode

the Suzuki at Carlsbad, we thought the forks were OK, except from big jumps. Now that we've put some time on the bike and have settled on a fork oil (20-weight Bel-Ray or Molly Blue), we can say that the forks must be considered excellent. They do stroke well, even when buried into a surprise hole, and they don't flex a bit. There was some harshness when the RM's rear shocks faded, but the forks didn't flex.

We'd have to rate the handling of the RM 370 as excellent. Even with the standard tires, the front end did not wash out, which amazed us. Riders who want even more front-end bite can get this by raising the forks slightly in the triple clamps. We did this at first, but soon returned to stock position.

The RM 370 handles almost exactly like a big Maico. When you take a look at the chassis dimensions and the rake

(Continued on page 59)

kenny's place

By Jim Mercier

Whenever there's a Nationals race of any kind, dirt track, mile, whatever, there's always some heavy racing, simply because there are points at stake. Points that determine the top rider for the year. What happens when the standings are already finalized before the race takes place? You go to the race just to see what happens, that's what.

That's what happened at this year's Ontario race. As far as races go, this had to be one of the best-run events in years. Very few crashes. Excellent control by the promoters.

All eyes were focused on the 750cc feature, because it was the last time Roberts and Scott would meet until late in February. Kenny came to race; the spectators showed up mainly because it was a National and that's it. The crowd was small, but they were all there to see Roberts. And, of course, Gary Nixon.

If the National circuit were run entirely on pavement, the #1 plate

wouldn't be leaving the yellow machines of Ken Roberts. Scott completely dominated the dirt races this past season and clinched the national title. Roberts spent most of his dirt track season in the pits, broken. When he was running, he would be right up there, but not for long. He finished few of the many dirt races this year.

For Roberts, there was more to Ontario than just the last race of the season. Far more. He came to the track to show everyone that even though he lost the plate, he was still Number One. That he did. Never did anyone even get in his shadow after the flag was thrown. He is by far the greatest living American road racer. The only excitement came from the rest of the riders battling between themselves for the runner-up positions. Riders like Gary Nixon, coming back from a fifteen-month recovery, provided much action for the spectators. First-year Expert Pat Hennen got the fastest qualifying time and sat on the pole for the first heat.

Junior racing was among the best ever. There were no crashes other than the normal sliders into the dirt of Ontario's flat corners.

Instead of the National Championship winding up at Ontario, it wandered out casually. The only reason the people came was because it was a National, and the riders showed because there was a little money in it: \$60,000 plus contingency, to be exact.

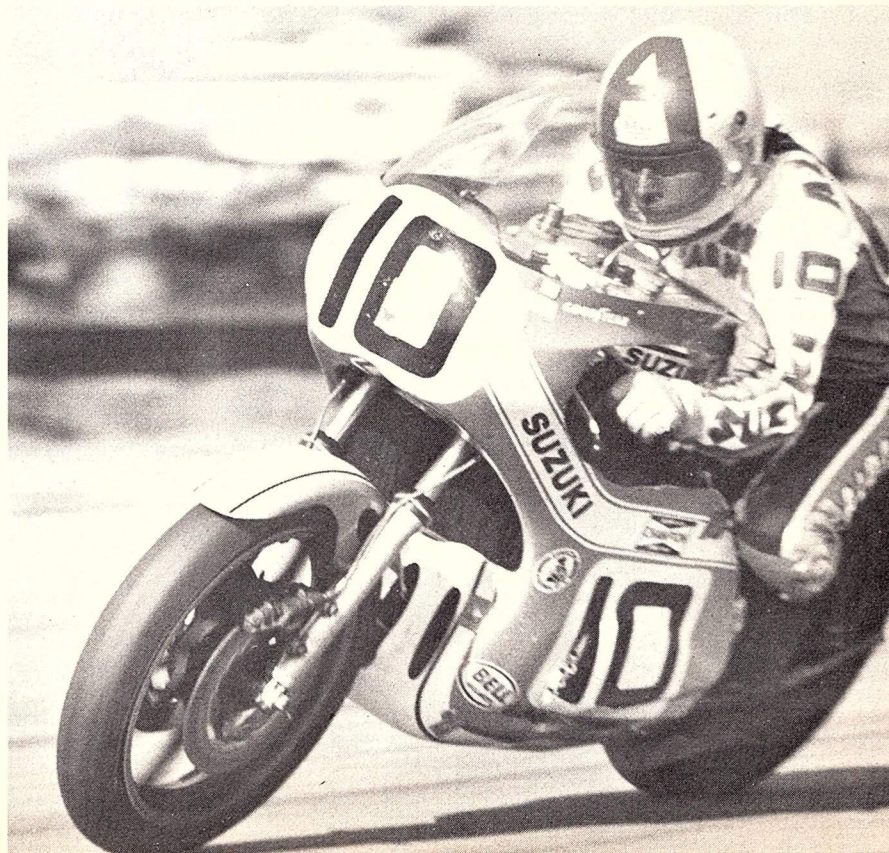
Gary Nixon made his comeback, and Kenny Roberts showed that he could still win, even though next year he'll be Number Two. When Kenny gave the plates to Gary Scott, he said, "Take good care of these plates, cuz next year I'm taking them back."

There's only one thing Kenny never thought about when he made that statement: Gary Nixon is back. And he wasn't even around at all during the last year. His second place in the first heat, despite a broken shoulder, proved that Kenny is not the only road racer with balls the size of the victory circle at the Big "O."



Somehow, Randy Cleek always manages to get into the top ten almost everywhere on very dated equipment.

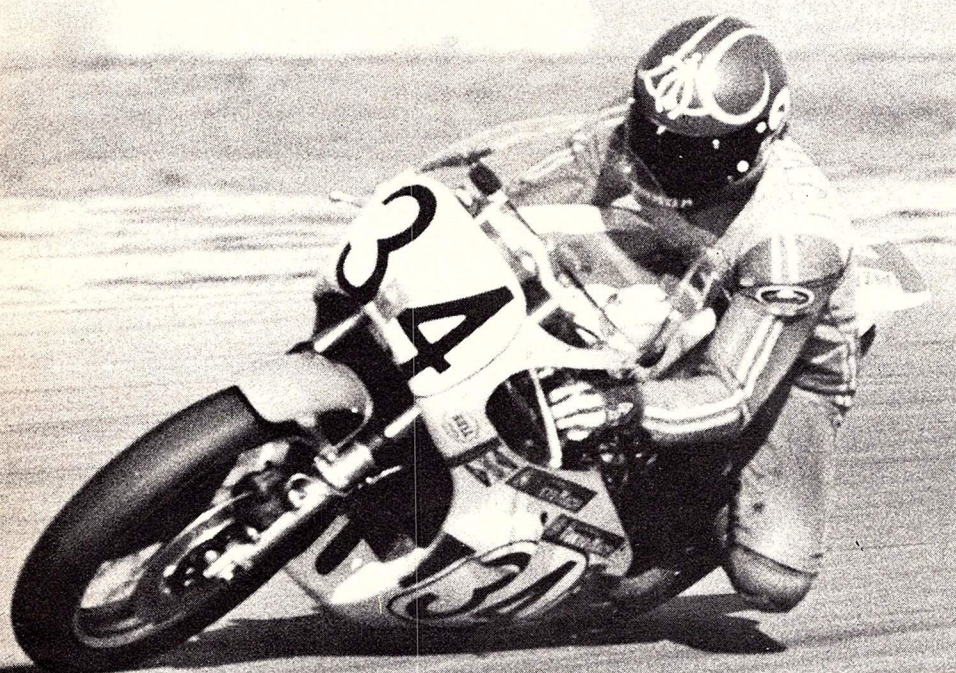
Dave Aldana had nothing but problems all day long. Still, he turned impressive lap times the week before the race. Mechanicals and a high-speed crash ground off part of his left hand.



Roberts came to win and perhaps to rub it in a little bit to Gary Scott. He did both quite successfully.



Photos by Larry Gaynor and Jim Mercier



DuHamel still hasn't found enough horsepower in his Kawasaki. He rode hard, but pulled on every long straight.

Another new name, Katayama from Japan, registered a solid second.

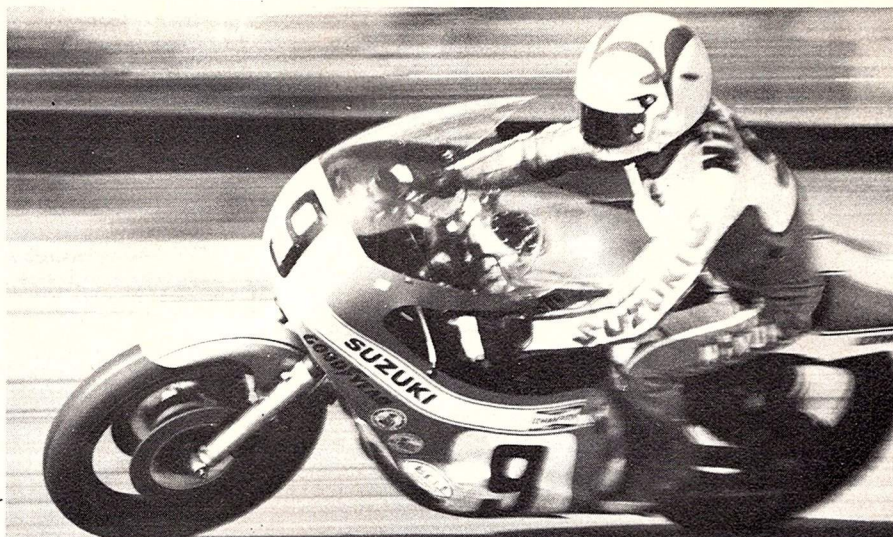
Murray Sayle from Australia, a virtual unknown here, finished a solid sixth.



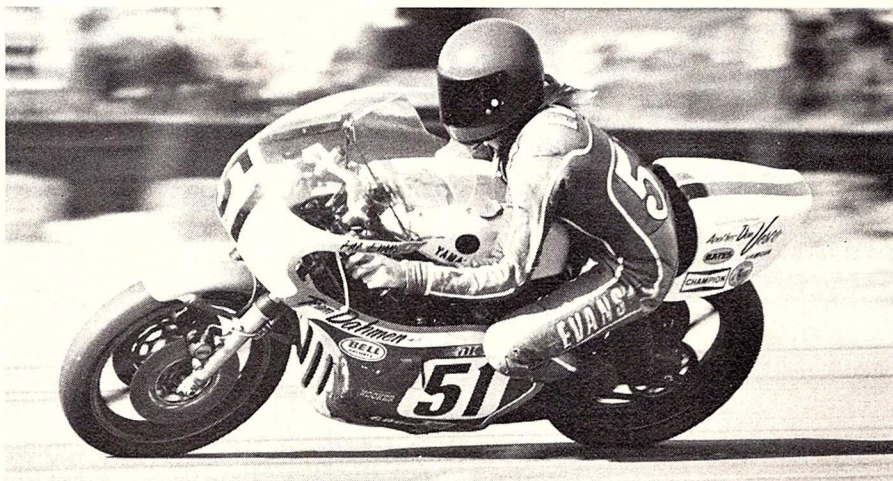
Gary Nixon rode his first major race after spending 15 months recuperating. A crash in practice broke his shoulder, but he raced anyway, amazing everyone, most of all, the doctors.



Cliff Carr rode a Racecrafters-prepared Yamaha that left a cloud of steam all around the track. He made numerous pit stops.



Jim Evans finished a strong fifth on last year's equipment.



Fastest Junior rider was Skip Aksland, who won his main event after a major battle with Steve Maloney.



**RESULTS—ONTARIO
EXPERT GRAND NATIONAL
Qualifying**

FIRST HEAT—1. Kenny Roberts (Villa Park), Yamaha; 2. Steve Baker (Bellingham, Wash.), Yamaha; 3. Gary Nixon (Cockeysville, Md.), Suzuki; 4. Tepi Lansivouri (Finland), Suzuki; 5. Mick Grant (England), Kawasaki; 6. Warren Willing (Australia), Yamaha. Winner's speed—93.05 mph.

SECOND HEAT—1. Pat Hennen (San Mateo), Suzuki; 2. Pat Evans (El Cajon), Yamaha; 3. Greg Hansford (Australia), Kawasaki; 4. Takazumi Katayama (Japan), Yamaha; 5. Steve McLaughlin (Santa Ana), Yamaha; 6. Hurley Wilvert (Westminster), Yamaha. Winner's speed—93.110 mph.

HEAVYWEIGHT PRODUCTION

MAIN EVENT (14 laps)—1. Yvon DuHamel (Canada), Kawasaki; 2. Steve McLaughlin (Santa Ana), Kawasaki; 3. Hurley Wilbert (Westminster), Yamaha; 4. Cook Nielson (Westlake Village), Ducati; 5. Reg Pridmore (Goleta), BMW; 6. Gary Fisher (Parksburg, Pa.), BMW.

**LIGHTWEIGHT 250cc
INTERNATIONAL RACE**

MAIN EVENT (18 laps)—1. Steve Baker (Bellingham, Wash.), Yamaha; 2. Takazumi Katayama (Japan), Yamaha; 3. Mick Grant (England), Kawasaki; 4. Gary Scott (Baldwin Park), Harley-Davidson; 5. John Long (Miami), Yamaha; 6. Walter Villa (Italy), H-D; 7. Phil McDonald (Tulsa), Yamaha; 8. Rudy Gallindo (Santa Fe Springs), Yamaha; 9. Takao Abe (Japan), Kawasaki; 10. Kenny Roberts (Villa Park), Yamaha. Winner's speed 89.957 mph.

750cc FEATURE

FIRST HEAT (35 laps, 101.5 miles)—1. Kenny Roberts (Villa Park), Yamaha; 2. Gary Nixon (Cockeysville, Md.), Suzuki; 3. Pat Hennen (San Mateo), Suzuki; 4. Takazumi Katayama (Japan), Yamaha; 5. Steve McLaughlin (Santa Ana), Yamaha; 6. Pat Evans (El Cajon), Yamaha; 7. Yvon DuHamel (Canada), Kawasaki; 8. Murray Sayle (Australia), Kawasaki; 9. Dave Aldana (Santa Ana), Suzuki; 10. Randy Cleek (Shawnee, Okla.), Yamaha. Winner's speed—94.089 mph.

SECOND HEAT (35 laps, 101.5 miles)—1. Roberts; 2. DuHamel; 3. Katayama; 4. Warren Willing (Australia), Yamaha; 5. McLaughlin; 6. Evans; 7. Sayle; 8. Aldana; 9. Gene Romero (San Luis Obispo), Yamaha; 10. Mike Clarke (Downey), Yamaha. Winner's speed—93.576 mph.

FINAL STANDINGS—1. Roberts; 2. Katayama; 3. DuHamel; 4. McLaughlin; 5. Evans; 6. Sayle; 7. Aldana; 8. Nixon; 9. Romero; 10. Cleek.

750cc JUNIOR

FINAL (18 laps, 52.2 miles)—1. Skip Aksland (Manteca), Yamaha; 2. Steve Mallonne (Venice), Yamaha; 3. John Talarico (North Hollywood), Yamaha; 4. Fred Walti (Santa Monica), Yamaha; 5. Bill Peters, Jr. (Parkesburg, Pa.), Yamaha; 6. Alan Barbic (San Jose), Yamaha; 7. Kevin Stafford (San Diego), Yamaha; 8. Richard Williamson (Torrance), Yamaha; 9. Frankie Juhan (Canada), Yamaha; 10. Richard Chambers (Raphine, Va.), Yamaha. Winner's time—91.521 mph.

250cc NOVICE

FINAL (18 laps, 52.2 miles)—1. Ted Davidson (Modesto), Yamaha; 2. Mike Baeder (La Habra), Yamaha; 3. Harry Klinzman (Garden Grove), Yamaha; 4. Jay Springsteen (Flint, Mich.), Harley-Davidson; 5. Dana Dandeneau (Pleasant Valley, N.Y.), Yamaha; 6. Vince Mead (Darien, Conn.), Yamaha; 7. Dave Emde (National City), Yamaha; 8. Tony Angioletti (Englecliff, N.J.), Yamaha. Winner's speed—87.120 mph.

LIGHTWEIGHT PRODUCTION

FINAL (11 laps, 31.9 miles)—1. Tip McPartland (Pacific Grove), Kawasaki; 2. Dale McCreary (Anaheim), Yamaha; 3. Bob Tigert, Jr. (San Francisco), Yamaha; 4. Mike Parriott (Rowland Heights), Honda; 5. Quentin Hogan (Springfield, Ore.), Kawasaki; 6. Bill Henry (Studio City), Yamaha. Winner's speed—81.128 mph.

SUZUKI RM-370

(Continued from page 55)

and trail, this trait is self-explanatory. The trail is only fractionally more than a Maico, and the Suzuki has one more degree of rake. Naturally, the Maico-type leading axle and straight-across triple clamps are utilized.

Because the Suzuki has more travel in the forks than a Maico, the front end snubs down nicely when braking for a turn. This means that you can take a flat corner with the power off, if you are forced to do so. And, again, the front end will not wash out as with Suzukis of the past. When we got around to installing those Metzeler tires front and rear, the handling was absolutely stunning.

Straight-line tracking at high speeds was as good as a Bultaco, and, as long as the power was kept on, high-speed whoopers could be taken as fast as the rider had balls to match.

We especially liked the way the bike handled down long, gnarly, fast downhills. Stability, before the shocks faded, was all anyone could ask for.

The big Suzook drew a lot of attention at the tracks, and the most asked question was, "How fast is it?"

We can only answer that anyone who makes hop-up parts for the RM 370 should be put in jail. It has more than enough to win in the Expert class, as is. We had several top-line riders put some time on the bike, and they were quick to admit that the bike was as strong as their factory specials and had a better powerband. One top-line rider (who must remain unnamed) said that he could win a National on the machine with a change of bars, grips, tires, and one tooth less on the countershaft sprocket.

Power started right down at the bottom, in spite of the fairly light flywheels. Midrange was the most impressive part of the power; but for a big-incher, the bike would rev out surprisingly far.

The first few times we raced the 370, we stalled it going too hard into some tight turns. This proved embarrassing, because the bike does not have a primary kickstart and we wasted valuable seconds fishing for neutral. Later, we learned to keep the gas on slightly when really stuffing it into a tight turn, and the problem never arose again.

One minor thing that did irritate us was the slightly short throttle assembly. Naturally, we changed grips right away, as the stock Suzuki grips had some hard ribs. When we installed a new throttle grip, we noticed that the throttle housing was at least an inch shorter than most others. We plan to replace the assembly at a later date, perhaps with a Magura quick-turn item.

In spite of repeated warnings about

breaking spokes and wheels, we never had a bit of problem in this area. Admittedly, we kept a very close eye on the wheels, but any rider should do this.

Our bike always started easily, even when ice-cold. No bite-back was experienced when stroking the well-designed kickstarter.

Obviously, the RM 370 was well thought out, with standing in mind. The rider easily and naturally assumes a poised position, with no awkward hunching over the bars needed.

When sliding the bike through a loose, flat turn, it's not necessary to get way up on the tank. Just plunk your old buns on the front part of the saddle, put some weight on the outside peg, and play with the throttle. The machine was a natural slider, but because of the explosive power, it seemed to turn the best lap times by cutting deep and squaring off the turn.

At first, we rode the bike in the lower gears too much, and consequently, had a few spinouts when the power snorted in. But, when we learned to ride up a gear higher, this problem went away.

We found that the Suzook would accelerate best by short-shifting, rather than winding out too far in each gear. Amazingly, you could ride around most motocross courses in fourth gear much of the time, because the bike pulled so strongly from low revs. Much of the credit for this grunt-like power must go to the case-mounted reed valve. As long as the filter was cleaned and the bike jetted correctly, we found it next to impossible to bog the engine down and make it blubber.

Even when we were two gears too high for a situation, the engine would still get right down and pull, rather than cough and blubber.

SUMMATION

All things considered, the new RM 370 must be considered the finest big bike on the market we have tested to date, even when comparing it to bikes that cost hundreds of dollars more. At a suggested retail price of only \$1545, the RM 370 is the bargain of the decade. Very little must be done to make the bike totally competitive, even at Expert level. And even if you do put a few more bucks in the machine to detail it out, you're still coming off the showroom floor below the retail price of the next-best big bike you can buy.

The RM 370 must be rated as more than a success; it's a brilliant machine that was almost worth the four-year wait. If the rest of the competition doesn't respond quickly and decisively, there will simply be no other sensible choice for the Open class rider.

Next month: A long-range test of the RM 250.

THERE'S ALWAYS A WAY TO GET MORE PONIES

MORE REVS FOR THE RM-125

With one gear less, you need more grunt inside.

I know just what you mean. That bike just isn't fast enough, but you've already bought the factory hop-up kit, and you're still getting passed down the straights. Hey, I outweigh most 125 riders by 20 pounds and know just what you're faced with.

Those little kids pass me down the straights and up the hills every weekend—but no more! We wanted to get more power out of our RM, but the thing had the kit and was supposed to be as fast as any other bike in its class. It's not. No stock kit bike will run with all of those tricked-out YZs and Hondas.

We were faced with a big problem, because no one has had enough time to get some serious power out of the RM, except the factory people—and their lips are sewn together. What are you going to do? Your friends think you're a toad, but you know it's the bike. All you need is a little more power.

So that puts us where we were a while back. And now we have some answers for you. There's this shop down the road called CH Industries. They aren't a regular dealer, because they

By Jim Mercier

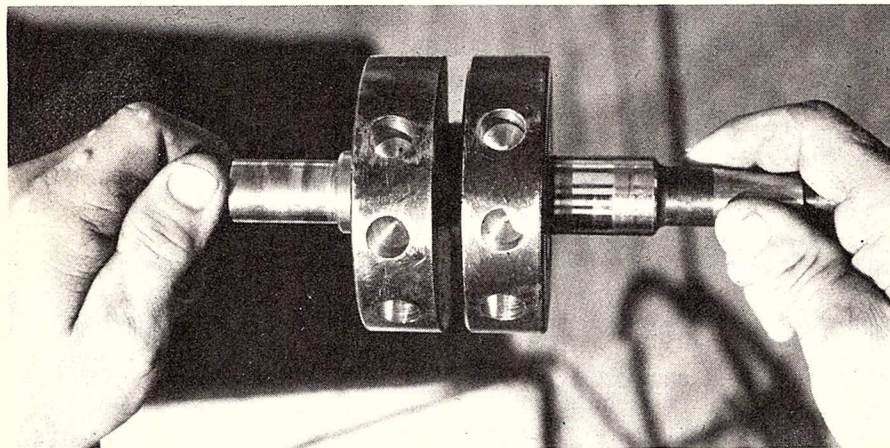
don't sell bikes. But they're the kind of shop that does nothing but experiment and race. When the new RMs first came out, the owner of the shop, Clifford Hughs, went out and bought one. As the bike came stock, it was nowhere near as competitive as the Honda he had been running. But he realized that the possibilities were there. It handled like a dream. All the components are great. But it wasn't fast enough.

Clifford did a lot of different things to the cylinders before he came up with the porting we decided to use in our sled. Since parts were an impossibility, other brands of pistons had to be hunted up; and after all of this, pipes had to be built. The more they did, the more there was to do. But enough of the history, here's what we did.

First off, if you haven't stuck the lower end, you probably will. From the factory, the rods don't have enough clearance for racing. For our crank, we pulled the wheels apart and machined the inside surface away until the rod had .075 side clearance. That seems

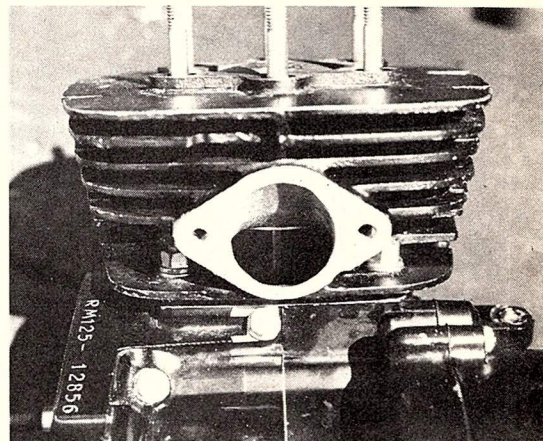
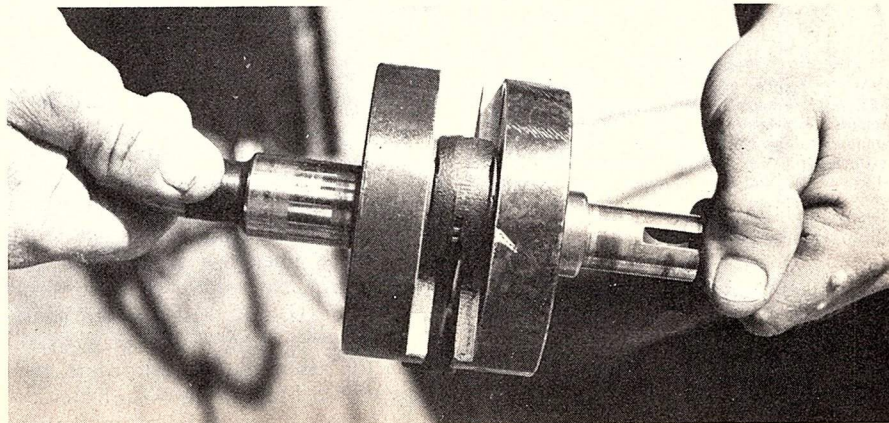
like a lot, but actually it's just right. When the wheels were apart, the crank was lightened to allow the motor to rev quicker. After all of the machining the crank is nearly a full pound lighter. It then had to be rebalanced and aligned, also.

If you bought the factory kit for your bike, then you got one of those neat pistons with the high-rpm rings. That's a good piston, but Suzuki doesn't have any oversize versions. So we were forced to locate a piston that had the same dimensions as the stocker. By chance, the piston for the 125 Elsinore has the same pin height and size. The skirts are slightly longer and add a little bit to the low-end performance of the bike. The piston itself will tend to



When we pulled the engine apart, we lightened the crank almost a full pound. With only a five-speed gearbox it's hard to keep the bike in the proper power, but for most 125 riders it's standard operating procedure to use the clutch about a thousand times per lap.

Rod clearance is now .075". That seems like a lot, but actually it's not. It allows the rod to seek its own center and lets the bearing have more lubrication. It doesn't make any more engine noise with this much clearance, either. The factory 125s are using the same setup in their racers, so it must work.



CH opened the intake quite a bit to allow free flowing of the gas. The manifold had to be matched to the port after doing this. As they come stock, the port is not big enough to handle a 34mm carb. After finishing the ports, make sure that the edges are deburred or chamfered. This will eliminate the chances of the rings snagging in the port.

rock less in the barrel and should last longer.

With the light crank and the longer piston, the power is better, but it still revs like a road racer.

Inside the barrel, we did little to the actual port timing other than lower the intake 1.5mm. The exhaust was widened 1.5mm per side and raised to 26.5mm below the top of the cylinder. We opened the transfers quite a bit to allow the engine to breathe a little better and raised them 1mm. They also were matched to the transfer openings in the engine cases. Matching transfers don't really add a great deal to the power, but the motor is just that much more efficient unless there is extensive blockage. Most of the pistons that you can get to fit the cylinder hang over the transfer section of the cylinder. If yours does, then trim the piston away until it clears the opening entirely. The piston should be placed at the bottom of the exhaust port when checking this. Also make sure the piston is straight in the cylinder. All edges of the piston should be deburred, or it might break.

Clifford has been playing around a lot with pipes. His latest pipe is similar to the one he's had so much success with on the 125 Hondas. It's a short

pipe, about 10" shorter than the kit factory pipe.

We didn't change the head on our bike, because we wanted to see what could be done using as many of the stock components as possible. According to Clifford, they've been using the head that's made by FMF. Also the DG head. The biggest difference between the two is the weight. The FMF head is a full 2½ pounds lighter than the DG unit. If you want to get more out of the stocker, then just mill .020 off the gasket surface of the head. This'll give almost the same performance as any of the accessory heads. Only difference is that the stocker doesn't have as much cooling area as the others.

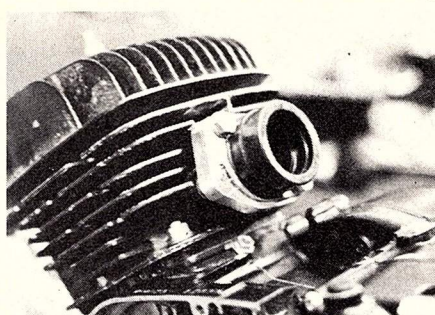
For the all-out racer, we recommend the accessory units; they'll keep the bike from slowing down half-way

through the moto due to heat.

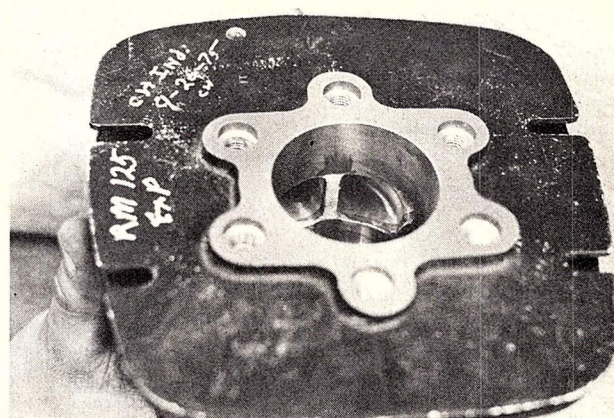
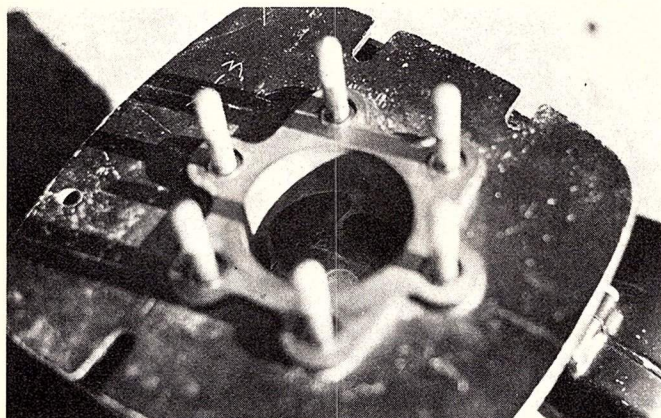
If you have the stock engine and want to make it as fast as the kit bikes, then all of these dimensions are the same. Only big difference is the ignition and the carburetor. Use the black box from a TM 400 and the advance curve will be the same as the kit box. A few riders have bolted-on Motoplats and even ignition systems with points. Suzuki 100 we think.

To bolt on the 34mm carburetor, all you have to do is buy the manifold that Clifford sells with the kit. For the carburetor and the manifold, it's only \$42.50. The carburetor is probably the biggest single difference that you can do. There are a few other kits that have been floating around through the shops to bolt on to a 38mm Mikuni; we're going to try one next.

Kit manifold adapter can be used, but must be matched to the barrel. Clifford's manifold is much closer to the bore. When installing, be sure to check for air leaks. Use fresh gaskets.

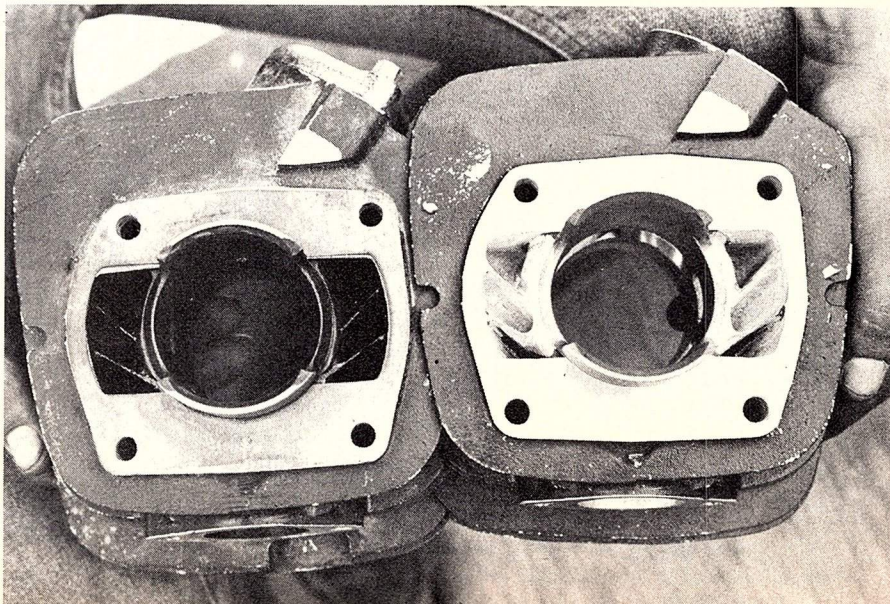


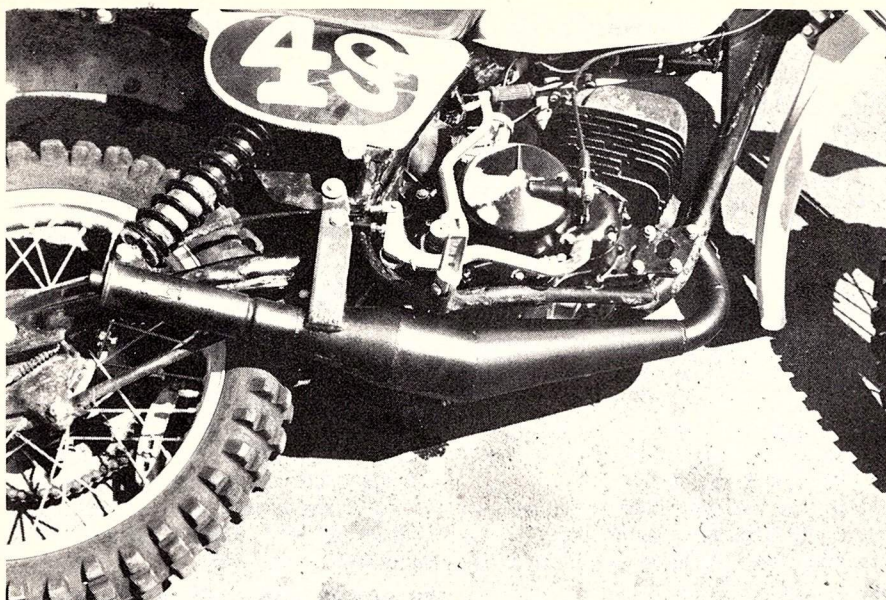
We widened the exhaust port 1.5mm per side. This puts the exhaust well over the front transfer. Working in this area is very touchy, so be careful. Again, all inside edges should be chamfered.



On all of the stock and kit barrels, the exhaust bridge is way too wide. This makes for a "hot spot" on the piston, and this will be the first place the motor will seize. To remedy the problem, we ground the bridge away slightly to give the piston a little more clearance. If you slip in this area you'll have to get the cylinder bored; so be careful. If you don't want to grind away part of the bridge, then you'd better drill a couple of #40 holes in the matching area on the piston. This will allow some of the lower-end gases to soak this area of the barrel. Place the piston in the cylinder with the rings removed in order to mark this section. Make sure the piston is straight in the bore before doing any marking.

Stock transfers are on the left, modified are on the right. In order to match the transfers to the case, you have to take the motor completely apart. All edges must be free of burrs.





The CH pipe is much shorter than the kit pipe and even shorter than the stock RM unit. It adds about 500 rpm on the top, and mounts in the same places that the stocker does.

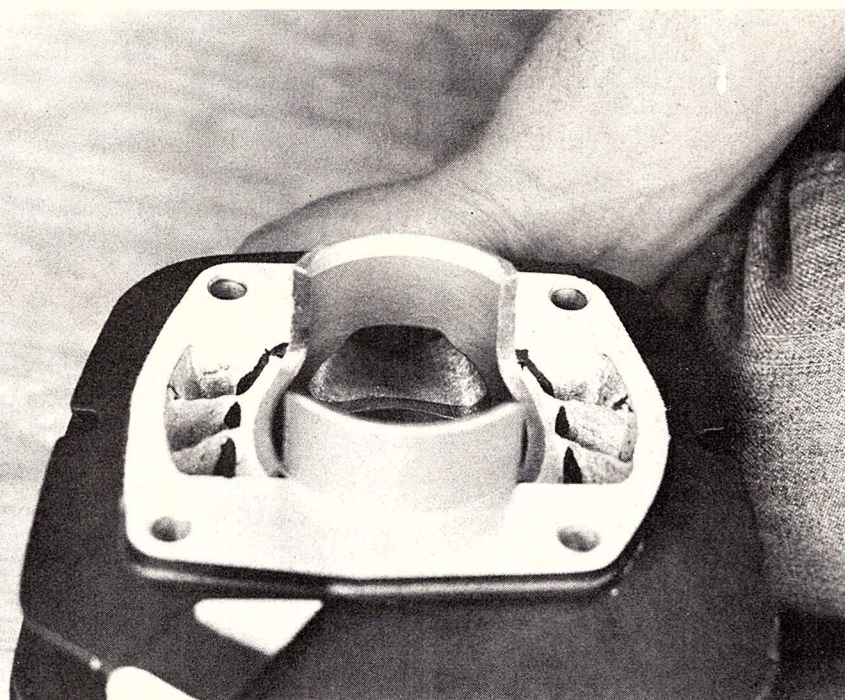
To get maximum support for the piston, we lowered the intake port only in the middle section of the port. This way, you get the efficiency, but don't have to make any sacrifices in support. Again, all edges should be chamfered.

With these few modifications, the little RM is now on a more competitive level with the other 125 class racers. We strongly recommend that these modifications be done only to a bike that is going to be raced on a serious level, because the hopped-up bike is much harder to ride than in stock form.

Further modification should be done to the drive train. Mainly the chain and the sprockets. That stock 428 chain is fine for old ladies, but it doesn't last long under all-out racing on a fast 125. Clifford has had special sprockets made that allow you to run 520 chain on the RM. He sells it as a kit, for \$39.95. It comes with a countershaft sprocket, pre-cut chain, and an aluminum rear sprocket; available in many sizes. With this chain kit bolted in place you shouldn't have any problems with the chain. We encountered chain snapping with the smaller stock stuff. Also, the bigger chain can take much more strain than the 428 and will last about three times as long. It also stretches less.

In order to get these modifications done to your bike, send all of the needed parts to CH Industries, 7550 Balboa, Van Nuys, CA 91406. For the porting, you'll have to spend about \$40.00; all of the crank work we mentioned runs right around \$25.00; the pipes he has go for \$54.95; and you can get the head machined for only \$10.00.

The whole ball of wax would run around \$195, a bit less than the factory kit. Plus, the CH kit outperforms the factory kit by as much as the kit bike does the stocker. For the money, you can't go wrong. Our bike is now right in the hunt for top spot in the highly competitive 125 class. ●



Clifford spends most of his time experimenting in the shop and at the track. Hillbillies can't be all bad.

YAMAHA ROAD RACERS

(Continued from page 15)

of the water-cooled engines so much that crankcases are not capable of being matched to the cylinders unless some special precautions are taken. If you aren't careful you'll cut through the crankcases, creating an unnecessary set of crankcase ventilators. The air-cooled models are not so wildly mismatched to start with and therefore do not provide one with an irresistible temptation to screw up. Actually, spending a lot of time on this area is a waste, because the alignment of the cylinder on the case is quite variable and dyno tests have shown zilch difference between matched and unmatched ducts.

When your cases, transmission, and crank are known to be in good condition, proceed with the assembly of the bottom end. A little bit of grease on the lips of the various shaft seals will prevent a dry-run failure of the seal during start-up.

When installing the crank, be sure to seat the main bearings squarely in the lower case, with the dowel pins in the holes at the split-line of the cases. Rotate the crank just to make sure that everything will turn freely when the cases are put together for good.

Coat the mating surfaces with Yamaha Bond #4 or #5 or an equivalent sealer and stick it together. The bolts and studs that hold the cases together should have their threads coated with an anti-seize like Never-Seez or at least some motor oil. Tighten them in the order and torque that is shown in the chart that is somewhere in this article.

Preparing the cylinders and pistons starts with matching pistons and rings to your cylinders. The chrome-plated cylinders come in a random size that is marked on the rear of the cylinder spigot in a three-

digit code. In order to determine the bore size of a particular cylinder, add its three digits to 54.00mm after the decimal point. For example, a cylinder marked .015 has a bore diameter of 54.015mm. Pistons are also marked with a size code that appears not only on the piston, but also in the part number of the piston you buy.

On the top of the piston is a two-digit (three-digit for factory-built engines) number which is identical to the last two digits of its part number and which tells you something about the diameter. An example air-cooled piston which has part number 329-1161-98 would have a diameter of 53.98mm and would have the number "98" on its top. Only a simple subtraction is needed to figure the resulting clearance between the piston and the cylinder wall. Or only a simple subtraction is needed to predict the correct piston size for a given cylinder. The recommended clearance is .040 to .045mm—by subtracting this from the bore size, you will know

which piston to install in that hole. Here's an example of how it goes:

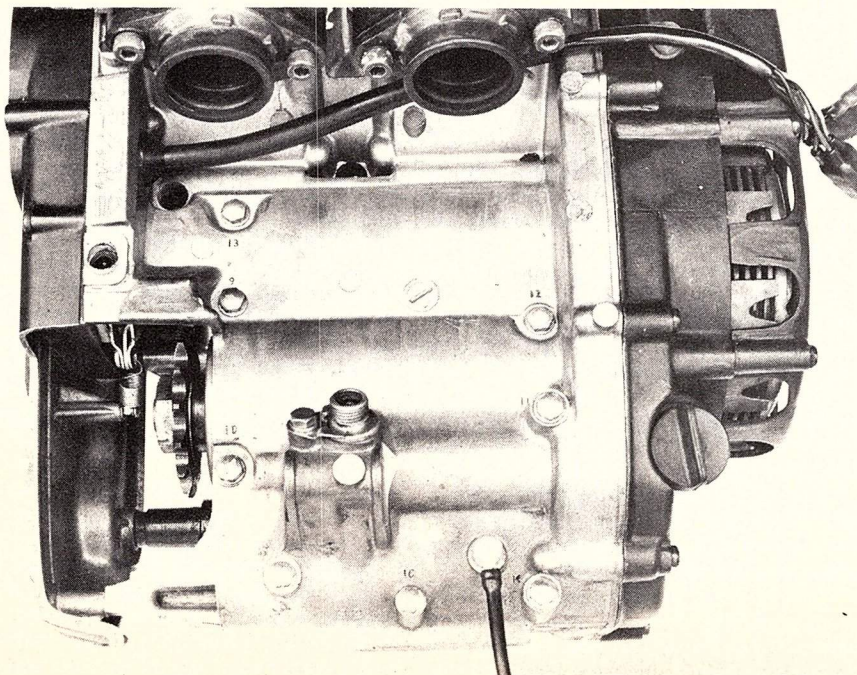
Assume the cylinder we have is marked .012 and the clearance needed is .040 to .045mm. Then perform the arithmetic like so:

54.012	54.012
-.040	-.045
<u>53.972</u>	<u>53.967</u>

The obvious choice would be a "97" size piston. It's not always so easy. Pistons can be gotten in sizes 96, 97 and 98 for the TZ, and the same plus a "99" for the air-cooled model, but they aren't always the size that the number leads you to believe. So, always check the actual installed clearance with a feeler-gauge tape. Before you start to check the clearances, slide the piston into the bore and let it set for five minutes to equalize the temperature of the two. This may seem like



Crankcase bolt tightening sequence is shown by numbers 9-16 cast into the cases next to each bolt.



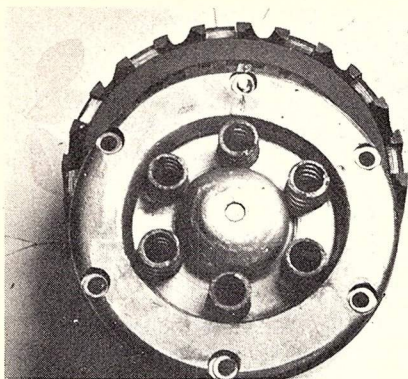
Glue the steel button into the clutch pressure plate with RTV or Pluobond.

a lot of nonsense, but keep in mind that the clearances are being measured to a few ten-thousandths of an inch, which isn't a whole lot of distance.

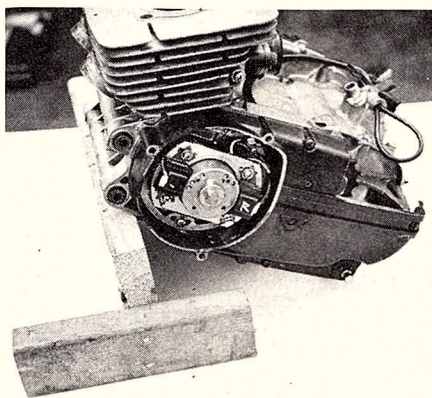
A one-and-a-half thousandths feeler-gauge should drag slightly when drawn between the cylinder and piston, a two thou gauge should be much tighter, and a three thou gauge shouldn't go at all on a new piston.

The easy way to put the gauge, piston and cylinder together is to lay the gauge in the bore so that some hangs out at each end, then slide in the piston. Check the drag of the gauge with the piston at different heights in the cylinder so that you find the tightest spot, if there is a particularly tight one.

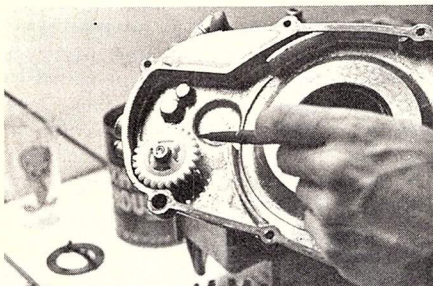
As mentioned above, the clearance should be .040 to .045mm (.0016 to .002") for new pistons, and there is a service limit of .10mm (.004") for used ones. Greater clearances give rise to poor heat transfer from piston to cylinder and rat-



Align the arrows on the clutch hub and pressure plate for easy assembly.



Build a cheap center stand to hold the cylinder bores vertical while working on the top end. Note paint dot on the ignition rotor and bolt. This will show two dots if the bolt starts to loosen.



Check water pump drive gear for wear on TZ 250 model.

ting which causes ineffective piston ring sealing, both of which can result in a loss of power and engine seizure.

Pistons that are marginally tight can be sanded down a little with wet/dry sandpaper to achieve the desired fit. Once the pistons have been fitted to the bores, mark them so that they go back into the correct cylinders at assembly time.

Properly fitted rings are essential to the racing ring-ding's performance. Any loss of compression sealing can cause hard starting, low power, and possibly budget- and ass-busting seizures. Brand-new rings have an end gap of about .020", while used ones should be given away when the gap grows larger than .35-inch. End gap is not the only criterion for judging a ring's functional condition.

The sealing face (O.D.) should be examined carefully in the area that passes over the outer ends of the exhaust port. Here's where the ring takes a beating and usually shows some sign of it. If the ring has any vertical scoring, chamfered edges, discoloration or any other discontinuity, scrap it out. Also look at the cylinder bore's surface that had the ring's bad spot over it; chances are that the bore will have a burr on a port edge or something else equally unwelcome that's the cause of the ring's distress.

Brand-new rings usually go right into the engine without being examined; this is a no-no. Before any ring, new or used, is put into the engine, its fit in the bore should be checked in the position that it's going to be used in.

Stuff a new ring into one of your cylinders, keeping the letters "NPR" in the upward position; now, square it in the bore by sliding a piston up the bore against the ring.

Hold the cylinder up to a strong light and look for light showing between the cylinder wall and the ring. There's a fifty-

fifty chance that one end of the ring will have a burr on it which holds the ring away from the cylinder wall—not a very good way to get a good seal.

Usually, massaging the burr with an oilstone or wet/dry paper will correct the malady. Another dud that shows up once in a while is the "D-shaped" ring; it will contact the cylinder wall everywhere but one spot somewhere away from the end gap, and no amount of stoning or sanding will correct the problem.

Since there's not much warranty work done on racing bikes or parts, your best plan is to put this ring into someone else's toolbox at the races and hope that he's less observant than you are, then make your dealer happy by buying another new ring.

Setting up the cylinders requires that you check their fit onto the lower end of the engine, that is, finding out how they are located relative to the crankshaft and piston.

This can be done two ways, and both are pretty quick and easy. Install a piston on a rod and then slip the cylinder and base gasket into place on the crankcase. Now turn the crank until the piston comes to its highest point and eyeball whether the piston's top edge is above or below the gasket surface of the cylinder; it should be dead even with it, but it's probably no big thing if it is .015 high or low.

The other way is to run the piston to its lowest position and check the distance from the top surface of the cylinder to the edge of the piston dome with the vernier caliper depth gauge, which should give a reading of 54mm. Make sure to measure exactly at the edge of the piston dome or you'll get bogus readings.

Cylinders that are too long or too short or improperly machined crankcases can cause some errors in port timing and compression ratio; these problems can be

eliminated with simple machining or thicker gaskets if they have been identified by the methods just described.

Before you rush out to have your cylinders machined off because they are too tall or whatever, check the location of all the ports, because improper material removal could cause some serious (.5mm or more) error in port locations.

Compare your port dimensions to the diagram in this article and combine this info with that from the piston height measurement in order to plan a logical solution to any dimensional problems that might be built into your cylinders.

Don't try to improve on the stock Yamaha port design unless you have a dyno facility and really believe that you can outdo the experienced floggers at Yamaha. Jimmy the Greek would probably put the odds against you. Merely removing casting flaws and other irregularities will do the job nicely; mirror-smooth finishes are necessary only if they make you happy.

A note on shaping the end of the transfer duct divider at the base of the cylinder: do not put a knife edge on this because a rounded edge is more effective at straightening the flow into the duct. Adjusting the port and duct contours should be done with small files and wet/dry paper, not a motorized grinder.

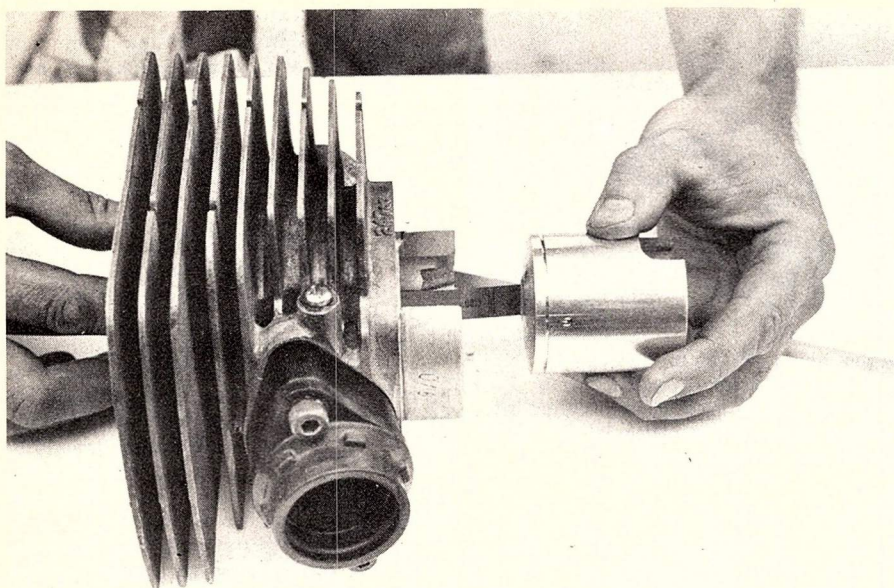
There are two reasons for this: one slip of a motorized grinder and you have cylinderburger of the most expensive type, which is easy to do as most grinders are too large to be driven around inside a cylinder with much agility.

The second good reason to use files is that they cost little and don't need a jillion cfm compressor to run them. Finishing off the edges of the ports will require wet/dry sandpaper. Wet with water or kerosene, because the chrome on the cylinder wall is harder than a tech inspector's heart, and a file just won't do a very impressive job of cutting through it. A couple of wraps of the silicone carbide-type paper around a file of the desired shape will create a suitable weapon for polishing the port edges.

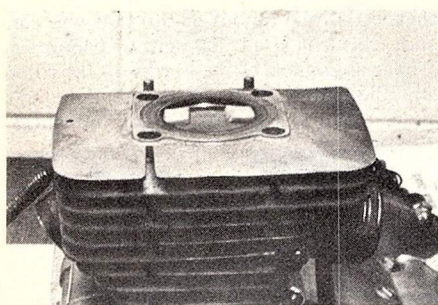
During any filing or polishing, it is good practice to wrap tape around the teeth of the file which are not actually involved in the cutting. This way you won't be likely to nick the cylinder if some weirdo geosues you while you're smoothing out your ports.

One of the last major efforts in engine preparation is called "getting your head(s) together," and it's a great place to make up for some of the sins of improper cylinder machining. Squish clearance, trapped volume at top center, and head volume off the engine are the three quantities that need to be known about each head before the engine goes together for real.

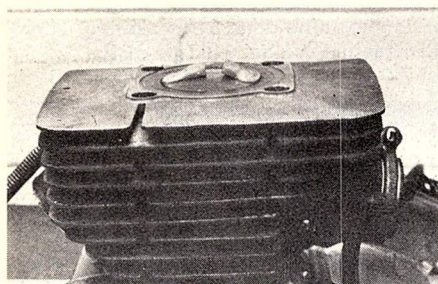
The squish clearance is measured between the outer edge of the piston dome and the cylinder head when the piston is at the top of its path. Start by placing a couple of beeswax blocks on the oiled top surface of the piston, which should be positioned about a quarter-inch below top center; then install the head with its gasket and torque the head bolts down.



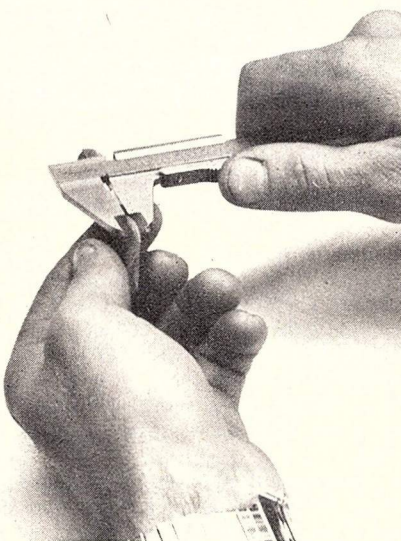
Slide the feeler gauge into the cylinder, then try to slip in the piston and check gauge tightness. For reference, the bore size is etched on the cylinder flange.



To measure clearance between the piston and the head (squish area), set wax blocks onto oily piston top, install head, turn crankshaft over.



Remove head and you have squished wax blocks to measure.



Measure and record wax thickness to determine squish clearance.

the bottom of the stroke and smear the cylinder walls above the ports with a layer of the heaviest, cheapest grease you can get, then run the piston up to top center by eyeball and wipe off any exposed grease.

Install the head and its gasket and assorted bolts. Use the dial indicator that's usually employed for ignition timing chores to set the piston exactly at the top of the stroke. Now it's all ready to start the tedium of cc'ing with the buret. Fill the buret with kerosene, heating oil or diesel fuel, set the fluid level to the zero mark and position the buret over the spark plug hole so that any fluid discharged from the buret will not be directed on to the threads in the plug hole.

Open the valve on the buret, maintaining a close watch for the first sign of fluid to cling to the bottom end of the spark plug hole. Slow the fluid flow when the fluid reaches the bottom of the hole, and shut it off when the fluid first clings to a full 360 degrees of the hole. Record the volume indicated by the buret, remove the head, wipe down all the surfaces and reinstall the head. Repeat this until you are satisfied with the accuracy of your measurement.

The number will be in the vicinity of 9cc if everything is near normal. If by some act of fate, you volume is 8.75cc you are all set, as the .1cc volume of a spark plug will bring the trapped volume up to 8.85cc, which is exactly that volume needed for a compression ratio of 7.6 to one. But if your luck is normal (crappy), you'll compare the volume you measured to the figure of 8.75 and find the amount of volume change that must be effected to bring your chamber to the right size.

Changing the volume usually involves removing small amounts of material from the head and remeasuring the volume, and removing more material and remeasuring.

To facilitate quick remeasuring of volumes, an intermediate measurement of head volume is done. It's quicker and easier than repeated checking of trapped volume. The head, with installed spark plug, is placed upside down on the bench, its gasket surface is coated with a thin layer of grease, and a plexiglass plate is placed over the combustion chamber.

Through a small (3/16") hole in the plate near the outer reaches of the squish band, the fluid is let into the chamber. If the hole is positioned at the top, the air will run out as the fluid runs in, doing a rather neat job of filling the chamber with fluid.

Because of the low surface area of the small access hole, the accuracy of this procedure is quite good—so the measurement of volume does not need to be repeated.

For example, assume that the trapped volume was measured at 9.05cc which is .3cc larger than the desired value of 8.75cc (plug volume not counted in). Then, suppose it was found that the head volume was 10.5cc.

By working with the head alone, and reducing its volume by .3cc to 10.2cc, we would be confident that the trapped volume would *also* be reduced by .3cc, to 8.75cc, which is ultimately verified by returning the head to the engine and checking the

Rotate the crank slowly back and forth through the top center position until no resistance is created by crushing the wax. Remove the head and measure the thickness of the wax which was caught between the piston and the head's squish band. If you get a figure between .03" and .07", then you can give the wax back to the bees and go on to checking the compression ratio.

Compression ratio is determined by bore diameter, exhaust port timing, and combustion chamber volume, all of which are set somewhat permanently except for the chamber volume. Measuring the chamber volume is not a difficult task, but does require a bit of care and patience to get good results. An error of one tenth of a cc is significant, so all volume measurements should be repeated six times so that you can throw out the high and low values and average the rest, which should

equal the most frequently-read value. Or, you can take lots of readings until you get one value consistently.

There are actually two combustion chamber volumes that we will be concerned with: the volume of the bare head, off the engine, and the volume trapped in the combustion chamber when the piston is at top center. The first is called head volume (HV) and differs from the trapped volume (TV) by about 1.5cc for the air-cooled and about 4cc on the water-cooled, which is the amount of piston dome that resides in the chamber when compression is at its peak value.

To find the trapped volume, start with a completely assembled cylinder, less head, on the engine. Prop the engine up so that its cylinder axis is as vertical as you can get it, in order to let air bubbles out of the plug hole when the head is reinstalled.

Run the piston down to a position near

trapped volume one last time.

To remove volume from a chamber, merely remove material from the gasket surface, keeping in mind that every one millimeter removed is equal to a volume reduction of 2.29cc—so for a reduction of .1cc, shave about .0017-inch off the bottom of the head.

No great investment is needed in the tools that will do a spiffy job of shaving small amounts of metal off the head while preserving its designed-in flatness. Only a flat plate and a few sheets of #220 wet/dry abrasive paper are necessary for the job.

For the plate, one can use a real genuine machinist's surface plate or a foot-square piece of aluminum about 3/4-inch thick, the latter of which could be bought from the scrap bin of the local metals warehouse for about \$1.00 per pound. On top of the plate attach the abrasive paper, grit side up, with a strip of tape at each end. Then place the head on the paper and slide it around in a figure-eight motion, turning the head 90 degrees occasionally to make sure that the material removal is uniform. A couple of minutes will be good for a tenth of a cc.

To increase the volume of the chamber, remove some material from the area in-board of the squish band by either turning the head on a lathe (an old spark plug can be used as an arbor) or by sanding, filing or grinding out a little bit of the bell-shaped section of the chamber. Do not cut into the squish band, as this might seriously upset the combustion control that the 50%-area squish band provides.

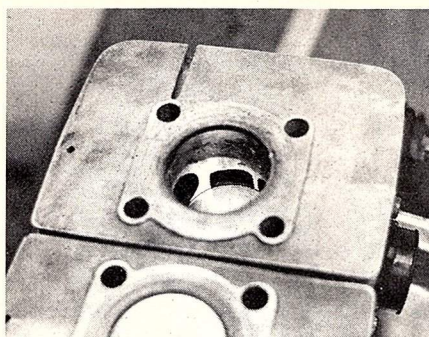
Prior to bolting down the heads, screw your favorite type of spark plug into place and look at how far the business end of the plug extends into the combustion chamber. Since most of us have never been sucked into a running engine, we've never really taken the time to enjoy seeing the firing end of a spark plug in its normal residence.

If you see exposed threads, it may be obvious why the plug manufacturers make different length plugs, and why some remove the end thread to prevent preignition from a glowing thread or piece of carbon held in an exposed thread.

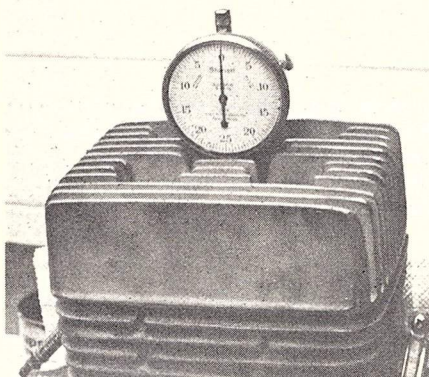
You might want to play around with different gasket thickness in order to get the right depth into the chamber, but it's not necessary because there are already lots of good plugs that fit the Yamaha's odd (.680") thread length.

NGK plugs of the "E" prefix and the AC plugs with "XL" suffix have the end thread removed from what is normally considered a .750-inch-reach plug. Champion makes a series of plugs for the Yamaha that has the letter "E" as a prefix, while they also sell the "N" prefix (.750" reach) plug with a special thick gasket to give the proper installed depth. Not only will a too-long plug invite preignition, but it can trap carbon in the exposed thread which may neatly destroy the threads in the head when you try to remove the plug.

There has always been disagreement on which plug brand and type belongs in any particular engine. One thing that there is virtually no disagreement on is that only



Apply heavy grease to the cylinder wall so that piston is sealed during trapped volume measurement. Wipe off excess grease when piston is raised to top dead center.



After applying the grease, raise the piston top dead center by eye, wipe off the excess grease, install the head and find the true top dead center.

a masochist would use a retracted-gap "racing" plug in the average modern two-stroke. These types of plugs include the NGKs with "N" suffix, Champions with "R" suffix, and ACs with "G" suffix. The fouling that befalls these types has caused more missed sparks, short rides and pissed-off riders than all of Joseph Lucas's evil deeds.

There is no need to use the retracted gap, so do yourself a favor: use the more conventional types recommended below. Exotic-alloy electrodes are favored by some because of their lower firing voltage requirements; such plugs are NGK B10EV and the Champion E55 or N57G (with thick gasket). A more conventional type, using normal (whatever that is) electrode material is the AC S40XL, which seems to work all right, and probably costs less than those that use materials from the dark side of the moon.

To ensure that a good spark gets to the plugs, you should set up and maintain the ignition system components with as much care as you normally spend on other parts of the engine. Drill several large holes in the cover over the ignition stator and rotor to provide cooling air to the stator coils, to prevent their overheating and subsequent failure.

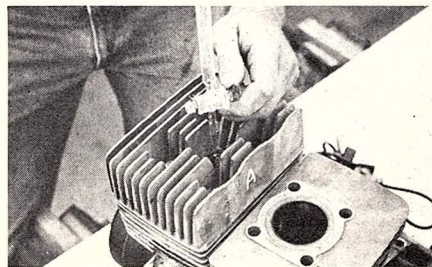
Check the resistance with an ohmmeter before you leave for each race; it can be a real bitch to haul your bike to some distant venue and find that it won't even start. These coils in the stator burn up easily and generally leave you with three

choices for a solution.

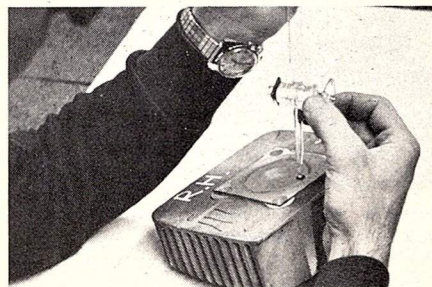
First and shittiest is to buy a complete stator assembly from Yamaha at over \$100, second is to buy the genuine Japanese replacement coil from Yamaha (the large one is \$18.00, and has part number 328-85566-10-00; the smaller one is \$14.00, and has part number 329-85567-10-00).

The third solution is to rewind your old coils and it is a topic that will be covered at a different time. The proper coil resistance is presented in the data table; if you find that one of your coils is showing higher than specified resistance, check for spark or try to fire up the engine before you go to a race event. They will continue to work for some unspecified time after they have started to change resistance, but don't hesitate to order a new coil to replace the one that is croaking.

Set the timing statically at 2.0mm before top center prior to starting up the engine. Then set the timing with the cheapest strobe (about \$3.00) that you can find. Check it at 11,000 rpm and look for proper alignment of the marks on the rotor and the pulser coils. If the marks don't align, make a new set that do, but check



The first and last check for compression ratio should be done by measuring the trapped volume with the piston at T.D.C.



Check head volume with a kerosene-filled buret. Plexiglass plate is held in place with heavy grease. This step should be repeated to check progress of material removal.



Orbit the head across the sandpaper in a figure-eight motion to remove material from the bottom surface.

these from time to time as some of the wonderful goodies in the black box may allow the timing to change without your permission.

Cooling system problems are not seen often on the TZ engine, but check over the pump drive gears for wear and toss the thermostat into a pot of water on the stove (or barbecue if you're the outdoorsy type) to see if it really does open up at 80C (180F).

Of course, all fittings should be tight and the hoses should be free from cracks and all that other crap you've heard a jillion times. Make sure that the air is bled from the head so that localized overheating will be prevented. Safety-wire all the bleed screws, drain plugs and the temperature gauge fitting.

This not only keeps the cash register at the local Yamaha dealer from ringing excessively, but helps get you through the tech inspection with less hassle.

Mount the engine in the chassis, but don't tighten the mount bolts until you see that each motor mount frame tab is snugly against the engine case. Fill any gap with a suitable shim; this helps to retard the fatigue cracking of motor mounts that has plagued these bikes for years.

Set the jetting rich for the initial break-in of new parts: #340 jets in the air-cooled and #310 in the TZ should do it. New cylinders have fairly rough walls that can really demolish a new piston and ring during break-in, so install an old set of pistons and rings for scuffing in new barrels. Once the chrome is polished (one practice session), switch to normally fitted new pistons and rings, and then take a couple of easy laps before turning the wick up all the way.

Choice of fuel, oil, and mixtures thereof can cause some confusion and has been the substance of countless arguments, none of which has reached any conclusion. Here's an approach that so far has worked without fault for the last few years.

Use Sun 260 gasoline (usually the highest octane stuff readily available) and Castrol R-40 oil in a mixture of 25-to-one. Some folks may say that more oil is necessary, but I believe they're wrong for the following reasons: Detonation is a constant threat to any high specific output two-stroke, and high octane fuel is a must for proper combustion behavior; so why dilute high octane gasoline with lots of low octane oil?

At 25-to-one I've never had anything that resembles a lubrication failure. Besides, a Castrol brochure states that R-40 is not likely to mix well in mixtures richer than 4% (25-to-one). On top of all that, there are many racers who have no trouble at 32- or even 40-to-one. Using too much oil is a real waste because oil costs money, fouls plugs, makes smoke, and there seems to be no obvious advantages to using too much.

Full engine power is sometimes not transmitted to the rear wheel because of a defect in the shifter actuating device (rider). Too often, the rider may actually believe the red line on the tachometer, and so he shifts religiously at 10,500 rpm, neatly dropping the revs in the next gear below that which is normally deemed

necessary for good power.

Anytime the engine is turning less than 8500 rpm, it's not making much power; and anytime it's not turning above 8000 rpm you should be in the pits and not on the track.

By doing a few calculations, a list of speeds has been developed that tells you how many r's are needed in each gear to get the engine to fall only to 8100 rpm in the next gear.

It goes as follows: first 11,018; second 10,231; third 9482; fourth 8957; and fifth 8647 rpm. So you can see that if you're not revving the snot out of it (11,000 plus) in the lower gears, you are going to get well below 8500 rpm and get motored badly by someone who's not reluctant to keep it on the pipe.

The local dragstrip is a place that you probably haven't been to in a few years, but it's quite a good deal for doing some tuning and just general screwing around. It beats getting busted by the local police for practicing full throttle starts in front of your house, and it's sort of fun to watch the local Clearasil set destroy their cars.

Saturday morning time trials are ideal for checking out the timing, jetting, shift points, clutch and brakes on your crotch-rocket while you get a time/speed reading of dubious accuracy from the infamous Chrondeks.

Get the bugs out of your bump-starting and holeshot techniques in the pits, then go out to the strip for a serious full-tilt run in which you don't shut the throttle off until 'way past the quarter-mile mark. Hold it on until you get to the last return road, do your plug check ("cut clean"), and roll up the return road to the nearest shady spot where you inspect the plugs. Don't forget to stash a plug wrench in your boot or in a pocket. You may have some problem reading the plugs because of the short duration (13 seconds) of the run, in which case you should remove the cylinder head and examine the squish band for signs of detonation.

Light detonation that appears only on the head may be tolerable, but a pock-marked piston is a tip-off that the timing or compression is a bit too much for the fuel you're using. Remember, small changes in the tuning really make the difference; the manufacturer has already made all the important large changes when he introduces a new model, so refrain from making any major departures from the original design.

The tables and charts that appear in this article are based on info provided by Yamaha, all of which has been cross-checked to uncover the errors in translation that the Yamaha manuals seem to suffer from. It might be to your advantage to clip out the data sheets and put them in a notebook that you should keep for your bike.

Other stuff that should go into your notebook would be miles run on the pistons, crank, etc., chamber volumes that you recorded the last time the engine was apart, ignition stator resistance readings at various times, and any other stuff that might help you to prevent a disaster or analyze the unexpected.

SPARE PARTS

(Continued from page 16)

wheel so badly that the wheel had to be removed in order to free the leg.

Hans Maisch, who finished fifth in the 1975 250 championships, notified the U.S. Maico importers that he cannot come as planned to the Trans-AMA, due to a broken hand suffered at the last round of the 250 GP in Switzerland.

Steve Stackable, second overall finisher in the 500 nationals last year, will now have to carry the Maico colors alone in the Trans-AMA, unless Maico can make a last-minute effort with one other rider.

TALK ABOUT TOUGH

Back at the SCORE race, Rex Staten rode the entire race in a cast. His wrist had been broken at the West Virginia race in a first turn crash. He won the heat race on Saturday and led for the entire race until the CZ puked. He got it running in time to get a second. How's that for a rider with a busted wrist?

RACE OF THE YEAR

Every year, the finest international Road Race stars gather at the famed Mallory Park course in England to compete in an event that has come to be known as "The Race of the Year." The 1975 field included "perennial" World Champion Giacomo Agostini, two-time World Champion Phil Read, English Star Stan Woods, Frenchman Patrick Pons and Suzuki's Formula 750 star, Barry Sheene, with Suzuki Team-mate and Trans-Atlantic Trophy Series overall winner, Dave Aldana.

The first event—a 40-mile 500cc race—was won by Barry Sheene on a Suzuki TR 500 over 1975 World 500cc Champ Agostini, and 1973-74 Champion Phil Read. Next was the "Superbike" contest, a 60-mile unlimited displacement event. Sheene again triumphed, this time on his works Suzuki TR 750, and Dave Aldana finished third despite mechanical troubles that almost sidelined the American star.

The field then shifted to the main event, a 100-mile 750cc race. Sheene ran away from the field—lapping all but four riders and setting a new lap record for Mallory Park of 98.38 mph—and Dave Aldana, riding Sheene's spare Suzuki TR 750, finished second, ahead of Agostini, Pons, Read and Woods.

Three races, two hundred miles, three wins. Barry Sheene takes "The Race of the Year."

Sheene will be unable to compete the rest of the season due to a crash which resulted in Barry breaking his leg. Tough luck for constantly-recovering Barry Sheene.

BACK IN THE SADDLE

(Continued from page 5)

only for him and has no relationship with the real time of the world.

Understanding this, I have attempted to psyche-out Jim by planning everything according to Mercier Time, hereafter to be known as M.T.

The way I figure it, one hour of regular time is the same as 2½ hours of M.T. Therefore, if you want Jim to be somewhere in 2½ hours, you insist that he show up in an hour. If the M.T. factor is running right, things will work out, and he'll show up at the originally intended time.

Except for one minor thing: Mercier's mind seems to have the uncanny ability to pick up on the *real* time you have in mind in the first place and adjusts his M.T. time accordingly.

So, if you tell him you want him

there at 7 o'clock (when you really want him there at 9:30), he automatically shows up at 12:00 sharp with several imaginative excuses, an open fly, and toast crumbs all over his chin. Without fail.

In a wild attempt to outwit the man, I have tried to play games with the clock in order to get him on time once in his life.

Take the day we were supposed to be over at a shop to tear down a motor of a test bike. The shop owner asked us to show up about one in the afternoon, with the bike and our cameras, at which time he'd show us all the secrets of that particular breed of bike. Mercier was out of the offices when I made the arrangements, so he had no way of knowing when the *real* appointment hour was.

"Jim," I said in my most convincing voice, "we gotta be there at eight

o'clock sharp to do the teardown. Why don't we meet at my house around seven-thirty, have some coffee, and then wander down in my truck? OK? If we ain't there on time, the guy says we can forget it. Now, I'm counting on you to be here in the morning before eight. Can you make it?"

"Hey man," replied Jim, sincerity dripping from every pore. "You know you can count on me."

I chuckled inwardly, knowing that not even Mercier could be half a day late for an appointment. To play it safe, I had taken the M.T. factor of 2.5 and multiplied it by itself. The formula looks like this on paper:

$$B.T./C + \frac{1}{2}HR + 2.5M.T. \\ \times 2.5M.T. = R.T.$$

Translated, this means: Bullshit Time over Coffee plus ½ Hour just to play it safe, times 2.5 Mercier Time times 2.5 M.T. equals Real Time.

STROKIN' IT

(Continued from page 11)

Have you ever seen a picture of Heikki Mikkola or Gerritt Wolsink doing a clicker? I bet you haven't, yet those two riders are damned fast. Fast enough to take the remaining two spots in the open world championship. Why don't they worry about pleasing the crowd?

Maybe it's because they realize the

importance of having complete control at all times. If you do a cross-up, that's wasted energy. Waste enough energy and you'll be tired before the moto is over. Get too tired and you'll crash. What's more important, being fast or being a flash?

Sit back and think about all of the riders who have come and gone, simply because they had the idea stuck in their heads that they had to do all those aerial gyrations for the crowd,

when all they were doing was hanging themselves.

I'm not saying that if you ever do another cross-up, your racing career is going to come to a screeching halt. But *don't* get carried away. Sure, it's good experience to know what things are going to happen when the bike gets stone sideways, and sometimes those things happen. But don't go out of your way to create a dangerous situation.

Let's take a hint from the real pros.

MR. KNOW-IT-ALL

(Continued from page 13)

trying to apply some of the technology I learned while drag racing. In our drag car we ran a gas called H + H Racing gas with an octane of 103 and a specific gravity of about .725. Also, sometimes we would use a mixture of 115-145 octane aviation fuel mixed with pump gas to get a specific gravity of .715. Can I use these gases along with my premix in a motocrosser without squeaking her? Also, will the bike run hotter in the long run? I know I will have to fool with jetting.

Kevin "Mr. Bizzy" Trost
West Chester, PA

Racer-In-Drag,

At ease, Trost. The biggest reason you got so bummed out on drag racing cars is because it became so complex and expensive that it was no longer the fun hobby you started out pursuing. Now that you have collected your wits and are into bikes again, you feel compelled to inject the same overdose of technology into the bike sport that is responsible for spoiling drag racing. Get yourself a six-pack of Bud (specific gravity .837) and try to forget your sordid past. By the way, Av-gas is very bad for two-stroke engines. You should have known.

\$UZUKI

Mr. Know-It-All,

Superzuki is for sure! TM 400s are very powerful. I have a '75 with a four-pound flywheel and geared two down up front. I'm planning to get a Red Line swingarm, good shocks, and a port job, as you did in the September '75 Superzuki Project Part 3. I may get a two-inch frame-lowering kit. Will an up-pipe from the new Suzook RM 370 fit on my TM? And will it help power down low, or will it just give higher revs? Or should I get a torquey Bassani as you did?

I may also get a Terry Industries eight-inch fork kit—what about this? If the forks remain strong, it should be worth 50 bucks to have a good eight inches of ride up front to go with the new rear assembly I'm getting.

My '75 should handle even better than yours, and very good as compared to the RM and other makes. Another idea just popped up—how about putting RM lower legs and internals on my forks? They're probably larger diameter, but it sounds good. Maybe I'll buy the whole front end someday.

The swingarm and shocks, frame kits, and porting job will cost about \$300, and if I get the pipe and fork kit (which aren't necessary) that'll be another \$120. How's the whole package

sound? A good answer will sure help me decide, and it will also help other TM 400 riders get a really good bike for a couple hundred.

If I sell my bike and get an RM 370, that'll cost about 800 big ones or more. I can go three but not eight hundred. I got my '75 for a nice \$1,125 (Suzuki had a rebate), and adding goodies at \$300 or so will put me on a Superzuke for about \$1,400, which is still lower than all the other good bikes. I'm going to smoke 'em!

Gary Blinn
Weirton, WV

My question is this, Blinn: Where in the hell did you get all this money? It strikes me as more than a coincidence that there was a bank robbery in Weirton last week and the robber made his getaway on a TM 400. Get the Bassani pipe and the Terry kit. Forget about interchanging any RM parts. If you start running a little low on cash, just pull another job.

DAZE OF WINE AND ROSES

Dear Mr. Know-It-All,

I have just finished reading the article in the September issue entitled "Project Suzuki, Part Three." The idea of making porting modifications by comparing the port timing of the Maico barrel to that of the Suzuki barrel really

It seemed that I had it figured out with room to spare, so I didn't start getting worried the next day until 10:30 rolled around. I called his house. Sandy answered: "Yeah, he just ran down the driveway with his shorts in his mouth trying to slip his right leg into a piece of toast. The last I saw, he ran over two garbage cans and damn near killed one of the neighborhood cats."

I hung up, numb inside. Still, he had well over two hours to make it, and it only took a half-hour to drive from his place to mine under the worst of conditions. If pressed, Mercier would make it in 19 minutes flat.

I relaxed and had another cup of coffee.

Nineteen minutes later, he pulled into the driveway and I breathed a sigh of relief. I had finally beaten the system.

He stumbled out of the van, toast crumbs in his nostrils and a sock stuck

in his half-closed fly, mumbling: "Man, you shoulda seen the traffic. It must have been backed-up all the way to..."

"Never mind the excuses," I chuckled. "let's load that bike into my truck and head on down to the shop."

He got a stunned look on his face. "The bike! The bike? I forgot the bike!!! Don't move; I'll be right back. It'll only take me nineteen minutes flat each way, no sweat."

My jaw swung slack and I sat down in the middle of the driveway in a nice oil puddle. His van roared off, taking three more trash cans to a sudden death in the process.

We eventually got to the shop at 2:30.

This is the way the man operates, each and every day of his life. Like I said earlier, the only occasions that he's on time is when we're going fishing in the morning. Then, he's beating on your door at four in the morning

with his bait box. The agreed time of meeting was supposed to be 5:30.

You might ask, "Is this enough to make you beat your head against the wall, Hunk?"

Up until the other day I'd have said "No." But the other day, the head knocker happened. We were supposed to meet the guys from S&W to torture-test some new shocks on their dyno. The target time was 9:00, so I told Jim we had to meet at 7:30. As the fates had it, I had problems with the electrical system on my trusty El Camino and showed up an hour late.

When I walked into the shop, full of excuses, Mercier looked up from his coffee and muttered accusingly, "Where you been? I've been sitting here drinking coffee for hours. You know you really ought to try to be on time now and then. Eh?"

Thump.

Do all the showing off in practice or on non-race days. But for the love of Jofas don't start looking like Spiderman at the races. How much fun can you have in a cast lying on the hospital bed recovering from knee surgery or something similar?

I've got the plan. Be cool, race hard and show off for your friends only when the time is right. Don't get carried away by the fact that you got the holeshot and while you have the lead you'd bet-

ter look the part. That's bullshit. No one in his right mind wants to go out and get the lead and then get off doing some fool stunt.

Ride like the big pros do. By the book. No chances unless completely necessary. Don't play when racing.

Just think how fast you could go if you spent all your energy on things that'll make a difference in the race instead of in the pits. When you get to be the best then you will have your

chance to completely dazzle the crowd. But not until then. Those riders who know the importance of being racing partners with their bikes have won more races than those riders who put their bikes through undue strain by throwing them all over the course. Start to concentrate on finishing races consistently rather than trying to win the hearts of all the pit tootsies. The glory will follow the winner. Even if he doesn't know how to do cross-ups. ●

got me off. I own a '72 Suzook enduro bike (TS250). I have cleaned and matched the ports and have a Bassani pipe.

Could I compare the port timing of a good enduro bike—a Husky WR, a Penton, or any other enduro-type bike with a good powerband—to my port timing and then make necessary port mods? Is this feasible for my particular bike? If so, do you have any suggestions for comparison? Thanks a lot. I think your mag has very good technical articles. You people know what you're talking about. Keep it up.

Ed Milstead
San Antonio, TX

Quite honestly Milstead, Super Hunky stumbled onto the similarity between the Suzook and the Maico porting by a fluke of circumstance—the same way most important scientific discoveries are made. I am convinced that the two quarts of burgundy wine he consumed the night before played a big role in leading him to that revelation.

Super's most creative moods are usually accompanied by raging wine hangovers. His misdiscovery was more a stroke of luck than anything else. Port timing, bore, stroke, inlet, exhaust-tract lengths, compression ratio, and so many other interrelated factors influence engine performance, that a blanket

statement is not feasible. More than likely, another experiment like Super Hunky's would result in disaster. If you decide to go ahead and copy some European porting, I would suggest a couple liters of "Big Red" wine the night before.

EAR POLLUTION

Dear Mr. Know-It-All,

A friend of mine says Yamaha's Monoshock isn't any good because it overheats quickly. Is this true? Another friend of mine says Hodaka's Super Rat (100cc) is no good, but, I say they're good for a beginner. Am I right?

Wally Houseman
Phoenixville, PA

From now on, Wally, advise friend A and friend B to consult Mr. Know-It-All before they shoot their mouths off and create a lot of ear pollution. A Monoshock Yamaha engine does not have a tendency to overheat, if properly jetted and sufficiently lubricated. A Super Rat has always been a good beater bike to start on. It is cheap, easy to fix, and lots of fun.

S*P*I*E*S

Dear Mr. Know-It-All,

What's happenin'? I'd like to do a speedway article for your magazine. I think that I can get Bobby Schwartz

and Sonny Nuter to give me the insights I'll need. I also have another guy that rides Division II. I was planning on following them around for a couple weeks. I'd also like to cover the Nationals.

I might even include in the article a part about riding a speedway bike for the first time. How to get started and some of the things that you should know before you go out there. I'm sure that I could get a couple of outstanding shots of these dudes going sideways. I even plan on doing some trick photography. Maybe for your center poster thing.

How's it sound? I would have just gone ahead and done it and sent it to you, but I need a press pass. Can you help?

Charlie Kloppenburg
Oxnard, CA

Dear Charlie,

It is my impression that you are already working for a monthly magazine—and a declining one at that—that I won't name. Is this an infiltration plot or what?

WHO KNOWS WHAT EVIL LURKS...?

Dear Mr. Know-It-All,

I own a Suzuki TM 125, and I like

(Please turn page)



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your story on Project Suzuki. I would like to know if I could do everything you did to your Suzuki.

Kenny Hilbard
New Smyrna, FL

Dear Kenny,

There may be a law or two in Florida that prohibits some of the things we did to our Suzuki, but I trust you can perform most all of our modifications without fear of prosecution. We promise not to divulge your name or whereabouts.

CZTUDEBAKER?

Mr. Know-It-All:

I have a 1972 CZ 400 Blk frame. Since the day I bought it, it's always been a smoker. Of course, I had to do the usual things—like plastic tank, air-box, alloy bars, levers, etc. As for the engine, I went to a 34 Mikuni and changed the ignition to a single-coil one-plug unit. And, like I said, it's always been exceptionally fast and reliable. Two Barstow-Vegas trophies and assorted other desert races ain't too shabby on the same bike.

However, on the last top-end rebuild, I let some trick mechanic talk me into a mild port job. Such as winged exhaust ports, enlarged transfers and intakes. Along with that, a bore job and piston and rings. Anyway, since all that's been done, my bike couldn't do good against a '42 Studebaker if I had a head start.

I took the usual steps on break-in time, and all the blubbering and farting is expected for the first tank or so. But eight or ten tanks of gas later it's still the same thing! I've jetted and rejettied that sled. I put on a trick expansion chamber; I've checked the cases for leaks; I've gone through my ignition system twice and still the same old crap. Poor bottom end, and nothing but chicken puke at midrange and above. I compared the new porting to an old stock barrel, and the changes aren't nearly radical enough to cause this.

If you can give me any ideas, I would be in your debt from the bottom of my Hi-Points to the top of my Bell. Maybe someone else has had this same trouble.

Hal
Anaheim, CA

P.S. Your mag is the best on the market. You know—a little humor, B.S., and honest-to-gawd tech info.

Don't let yourself be fooled, Hal. It takes only small changes in port timing to effect large changes in performance characteristics. Your only hope is to go back and investigate a pipe that will work properly with those cylinder mods. Talk to Joe Kubicek at South Bay Motorcycles and tell him Mr. Know-It-All sent you.



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POST ENTRIES

(Continued from page 10)

MORE ADVENTURES OF ILENE

WOW! Thanks. I have just proven that you needn't be a woman's libber to get a square deal from the male population. Letters began coming to my door from other female bikers who had read my letter in your magazine.

Since I first wrote you, five of us went camping in the mountains of Arkansas and *we were all struck by lightning!* We weren't on our bikes at the time, but were camped on top of a mountain in a national forest.

I got some bad burns and was knocked unconscious for a short period of time, then was also paralyzed for several hours. Things got a little hairy for a while, but I'm here to write about it.

I was put in a steel body brace before I was allowed to leave the hospital. The doctors consented to having the brace made an inch and a half shorter, so it would fit the rear of my Honda seat, so that I could ride again as soon as possible.

And believe it or not, that old brace has learned to ride pretty well. Sometimes my son has to help me get on and off, but that won't go on forever. My youngest son, Chip, and I went on vacation—5,557 miles, and every inch of it on our bikes. I finally made 25,000 miles in one year.

Ilene Massey
Independence, MO

KOROLY KOMPLAINS

I saw the new Pacifico face fender, and I think it's shit. The old fender was good; now it's smaller, weaker, shittier, and offers only about half the protection the old one does. And Pacifico has the balls to raise the price to \$7.00.

Michael Koroly
Bronx, NY

RIP-OFF REMEDY

Since all these dirt bikes are getting ripped-off, how about this idea to recover them—or at least part of them?

WANTED: Will pay top dollar for Thunderbolter 125, 1975 model [etc., etc. Add appropriate details that describe the stolen bike.], or parts of same. **TOP PRICE PAID!!**

The idea is that the thief stole for the cash that he hopes to get from the sale of the bike or its parts.

Just wait until you find some parts or something else off your bike, and then not-too-politely ask, "Where the ##\$% did you get this?" If he turns red and gets nervous, you've found

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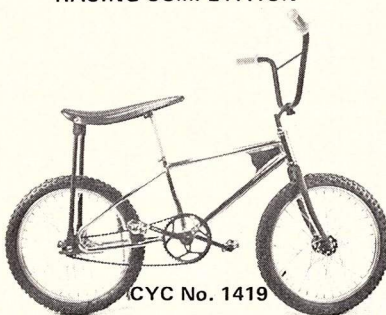
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your part. An honest person asked that question will immediately punch you out.

Just tailor the ad for yourself, and Zam! Hopefully, you will get results. Now isn't this idea good enough for a subscription to your magazine, the finest on the market and all that zarf? Thanks! (I take that back if you don't give me a subscription.)

Mike Skelton
Vancouver, WA

IS THAT ANY WAY TO TREAT A TRASH CAN?

We usually pass our cycle magazines on to our junior high school. The only place we're passing the Oct. '75 issue to is the trash can, and, of course, we won't buy anymore. You had a good magazine with some good articles, until you had to infiltrate it with filthy language. Especially articles by Rick Sieman. He is one of the most sarcastic, foul-mouthed writers to emerge on the scene. He might be a good writer if he could find the words to express himself other than gutter words.

Mr. and Mrs. G. Headlee
Westminster, CA

Have you ever hung around the high school crowd at lunch time, Headlee? The language would paralyze a toad at three hundred yards. Or is just "cute" when the little dears say it?

JEFF SMITH WON ON A 441cc VICTOR, TOO

Dear Mr. Krause,

I'm writing because of the fact that I no longer live in Illinois, so I am not able to come in and give my two bits on the subject.

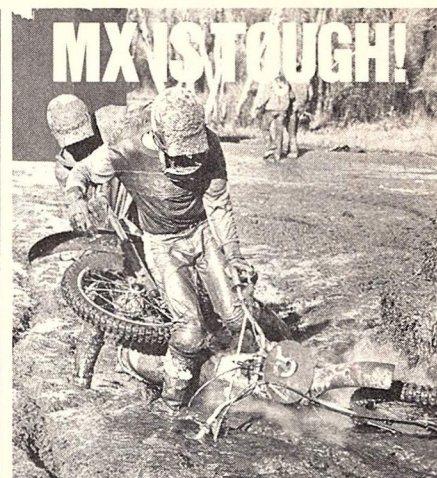
In my six years of reading just about every magazine on the stands, I must say that if any one magazine deserves to be used in a shithouse as second-rate toilet paper, it has to be *Modern Cycle*.

Also, I would like to add that I have never heard such words as tough shit, bullshit, etc., used in such piss-poor taste.

As for "The Racing Magazine's" test on the CZ 400, apparently they dislike this high quality, race-proven racing machine and have forgotten that riders such as Joel Roberts, Roger DeCoster, Marty Trippes and Brad Lackey all got their initial serious training at the CZ factory on CZs.

Joel Roberts won his first World Championship on a CZ. Tony D lost the 500 National Championships due to an injury by only a few points, on a basically-stock CZ.

Granted, the bike has a few drawbacks, but I'm sure these minor flaws could be corrected easily! In any event, in my opinion, *Modern Cycle's* test on the CZ 400 wasn't worth the paper it was printed on. To hell with *MC*, and long live *Motocross Action*!



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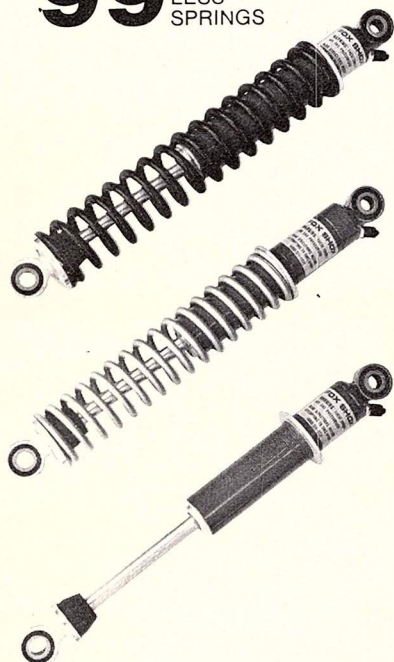
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I have but one more question: How did a person such as yourself ever get involved with such a rank magazine? Mr. Krause, shame on you.

T.E.
Denver, CO

Just luck, I guess. By the way, take a look at some early issues of MXA. You'll see that MC's editor used to be the publisher of that book. Oh yes . . . remove the staples before using either MXA or MC. It's much better that way. And safer.

WHERE TO ROAD-RACE ON THE EAST COAST

I have something to say about a letter in your October '75 issue. There was a guy, Thomas Chromczak, who wanted some information on road racing. Well, there are lots of places in the East to road race. Of course, it is too late to race this year, but he could get hold of the ERA (East Coast Road Racers Association). They held semi-pro and pro racers last year and are probably going to do the same this year. Here is the address: East Coast Road Racers Association, 1742 Addison Street, Philadelphia, PA 19146. Phone: (215) 732-2128.

Diane Nocera
Chalfont, PA

ADVERTISER'S INDEX

American MC Institute	70
CMS Products, Inc.	10
CYC Distributing Co.	71
Cycle House	Cover 4
Cycle Trader Publications	72
Discojet	71
DG Performance Specialties	6, 7
Ken Ross, Inc.	11
Krause Competition Cycle	70
Langlitz Leathers	73
Maico	11
Mid Valley Cycle	16
Moto X Fox	70, 73
No. Amer. School of MC Repair	73
Number 1 Products	5
PBC Products	11
Rat's Hole	10
Riff's Cycle	10
Skunk Works	9
Standard Technical Inst.	72
S&W Engineered Prod.	72
Standard Technical Institute	72
Triangle Motorcycle Supply	73
Village Cycle Shop	16

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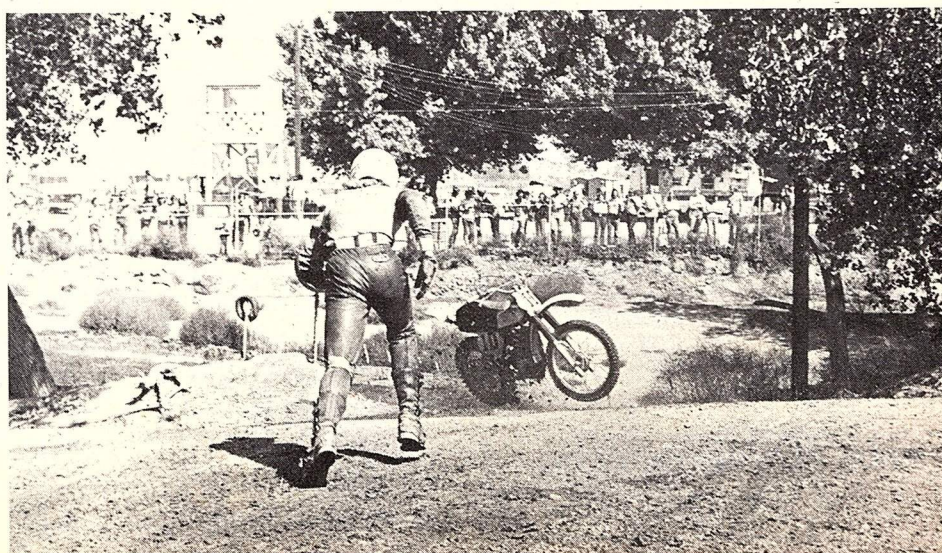
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. . . captured by photographer Mark Kiel at Indian Dunes Park in California. Unfortunately, the rider didn't recover quite as quickly as the photos indicate, as he had a broken leg and didn't even know it. Yet rider Ken Goldie got up, ran after his machine, caught it, and finished the race. Later, he had a cast installed. Such is the fortitude of motopersons.



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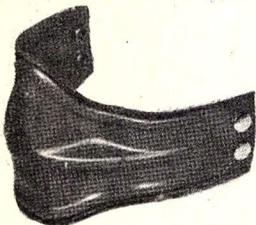


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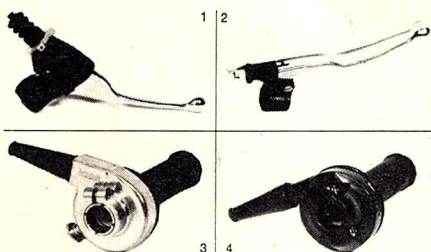
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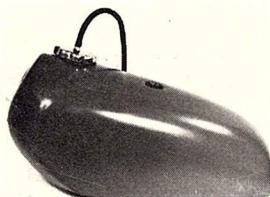
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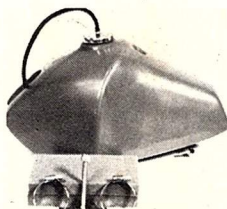
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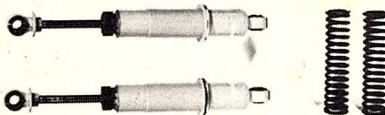
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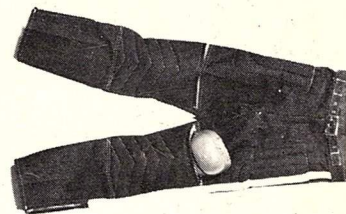


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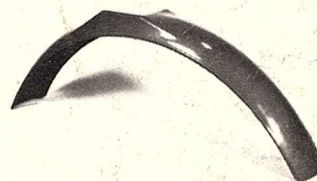


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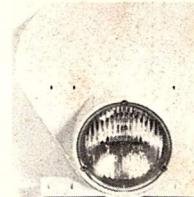
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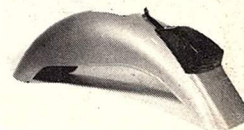
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